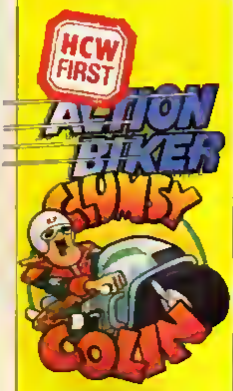
HOME COMPUTING WEEKLY
AN ARGUS SPECIALIST PUBLICATION
June 23-1 July 1985 No 118 50p

Meet Paul McCartney!

Win a day out with Paul in our Broad St Competition



Software reviews p.10

Sinclair rescued by Maxwell's £12m

Publishing magnate Robert Maxwell, has taken over Sinclair Research after the company ran up debts of £15m

The deal was announced last week after nine hours of talks between Maxwell and Sinclair which took place in Oxford at the headquarters of Maxwell's company, Pergamon

Pergamon's subsidiary, Hollis, will acquire 75% of Sinclair Research shares and new shares will be issued to raise £12m

The Sinclair crisis was brought about by a drop in sales last Christmas which left the company with £30m worth of stock unsold

Mr Maxwell will take on the position of chairman in the company and Sir Clive will remain with the company as life president and research consultant When the deal has been completed Sir Clive will be left with 8% of shares a massive cut from his former 83%

Mr Maxwell is planning to get rid of the huge surplus of stock by selling it in Eastern Europe. Plans for export of British made computers to the Eastern Bloc have been put forward before (HCW 98, Feb 9, 1984), and on July 25 the government will relax export regulations so that nearly all home computers will be free from embargo

Sir Clive with working waterdrive

Robert Maxwell

Mr Maxwell was been in Czechoslovakia and has retained close contacts with countries behind the Iron Curtain A version of the 48K Spectrum, which was exhibited in Moscow in January at the Technical Facilities in Training Fair, has been developed to display the Cyrillic script and this could aid Mr Maxwell's plans tremendously

It is still unclear whether the Sinclair name will remain on future products but the Maxwell deal ensures that Sir Clive will stay with the company for at least five years and continue work on the flat screen television microchips and computers at the newly created Metlab in Cambridgeshire

When HCW went to press, meetings were being planned to decide what to do about Sinclair Research's principle creditors Thorn EMI and Times are owed £10m between them and Barclays and Citibank are owed £5m Mr Maxwell has inherited these debts along with the company

This is not Mr Maxwell's first venture into the field of high technology Pergamon has produced electronic databases and was the company through which he purchased the Rediffusion cable television network for £11m last year

Inside your bolder, brighter, better HCW . . .
Communicating on your computer p.15 . . .
. . . and your BBC speaks p.20
Commodore special: Games for C64, C16 and Vic 20
Plus: Your letters, readers page and much more!

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Spectrum 48K

CBM 64

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'I believe Match Fishing brings a whole new meaning to computer entertainment joining up to 8 players in an atmosphere of friendly rivalry and competition. Combining the power of the computer, its memory and speed of action with the skill and excitement of Britain's most popular outdoor participation sport, Match Fishing is the first of its kind in allowing all players to participate at one and the same time. Computer enthusiasts, games players and fishing addicts alike, I'm sure you will enjoy the excitement as much as I do'

Alligata Software Ltd 1 Orange Street, Sheffield S1 4DW Tel: (0742) 755796

HOME COMPUTING WEEKLY

Soapbox

I believe that computer education should be more widely taught among young children. Computers cao be very expensive and not everybody is able to use one even though they may have a great deal of interest in the subject, therefore it would be a good idea for schools to put more emphasis on computer studies when educating young people

I feel that the practical side of computing is more important than the theory. I have been taking computer studies for two years now and I can honestly say that I haven't learnt a lot, up to now, because I simply have not been given the chance

The lessons which I took in computing at school dealt with theory rather than practice When we used computers there were too many people and not coough micros for everyone The people who did not own their own computers were at a distinct disadvantage because the teacher could not be bothered to help out and seemed more concerned with those who had experience of micros

I think that this is very wrong considering the fact that computers are supposed to be so important nowadays

There should be at least one computer club in each borough where anybody of any age can attend I know they would be expensive to run but I would be prepared to pay a reasonable fee to make it worthwhile After all it is our future which is at stake

Steven Thomas, Belvedere

CONTENTS

June 25-July 1, 1985 No. 118

SPECIAL FEATURES

BBC

AMSTRAD

SPECTRUM

COMMODORE

REGULARS

Editor Dave Carlos
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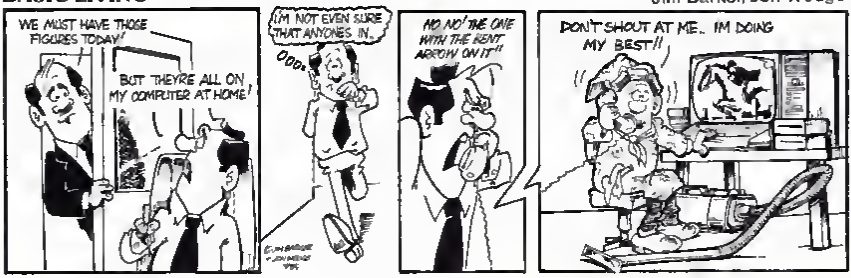
BASIC LIVING

Jim Barker/Jon Wedge



NEWS

To be Frank

Ocean's Frankie Goes to Hollywood is to include an unreleased version of the hit song Relax in the package

The game is for the Spectrum and C64 and was launched on 20 June It has been produced as a joint venture between the band, Island Records, Creative Producers ZTT and Ocean Software.

According to Ocean both versions contain over 124 screens and are priced at £9 95

Ocean, 6 Central St, Manchester M2 5NS

The Frankies' manager, Tony Pope, gives the thumbe up to Oceans' new game

Big brother BT

British Telecom is clamping down on hackers in an attempt to stop people using the information contained in the Hacker's Handbook

BT has instigated the use of a little used system called Service Interception This means that many of the numbers in the Hacker's Handbook now connect you directly to an operator who will ask probing questions like "Who are you?" and "What do you think you're doing?"

If this happens then don't hang up because the operators have facilities to keep the line open so the call can be traced

It will probably be best if you leave well alone!

Dial-a-soft

C64 owners can now obtain BT East's Dialsoft program, a user to user communications program There are two versions being written for the C64 and the first of these, for users with the OEL/PRISM comms pack, is now available

The new program offers facilities including auto chat mode, data and program transfer facilities and a built-in machine code save routine

The three versions now available for the BBC Spectrum and C64 all use compatible line protocols and hence can be used in chat and transfer mode between all three machines

To find out how to download these programs via your telephone call Colchester (0206) 8065

TV Quiz in HCW

There will be prizes worth £[illegible]000 in a new competition to be featured in the next series of Database on Thames Television Home Computing Weekly readers will be amongst the first to have the clues.

The competition is in four parts and has been compiled by Claire Walker of Micronet. Anyone wishing to enter has to collect four clues and by a little thought find the final answer.

There will be just three ways to collect the clues. You will be able to load them directly into [illegible] anyone with a home computer and a modem — and on Micronet 800. Or you can read about them in Home Computing Weekly starting next week.

All clues have two parts which lead to the final answer. There are aspects of history, geography and even the classics in the clues, which take the form of cryptic messages. The editor is already struggling with a desk full of reference books.

The prizes are 30, one year subscriptions to Micronet 800 and the winners will be announced at the PCW show, selected ones will be invited to the Show, as Database presents a special [illegible]

[illegible]

Pirates ahoy!

The Copywright (Computer Software) Amendment Bill passed through the committee stage at the House of Lords on 5 June with only two minor amendments. The Bill was supported by all parties

The Bill will now return to the Commons for consideration of the Lords Amendments and it is likely that it will become law by the end of July

Federation Against Software Theft, Chancery Hse, Chancery Lane, London WC2 1QU

Pirates beware

Cintronics has just announced the availability of a program, which, it is claimed, makes it impossible to copy a C64 program.

According to the manufacturers the program protects software from tape to tape copying, tape copiers and hackers cracking a program and then making a copy.

Cintronics claims that experts and hackers have tested the program and so far no one has managed to make a copy of a program protected in this way.

Cintronics, Lonsto Hse, 1-3 Princess Lane, London N10 3LU

Pirates fined £1500

More software pirates have been brought to justice, this time in Wigan

Lynkirk Ltd and its two directors were found guilty on charges connected with counterfeiting software produced by Stainless Software for the TI 99/4A

Lynkirk Ltd was trading as Startrek Video when the tapes were purchased from Stainless The charges were brought by the Trading Standards Officers of Manchester Council.

Lynkirk Ltd was fined £1500

Oric crosses channel

In an exclusive interview for HCW, Jean Claude Talar, president of Eureka, gave details of his future plans for Oric in this country and abroad.

The good news for fans of the machine is that it will soon be available in the shops again, if distribution can be organised. Currently on sale in France is a package deal which offers an Nimos, a colour monitor and a cassette recorder at an all-in discount price

The idea is to emulate the Amstrad package but at a much lower price — a difference of 1000 French francs was mentioned. If there are distributors who will handle the deal then there is no reason why this should not be in the shops within a month according to Jean Claude

A worry for all the existing owners is that of continued support in both software and hardware Eureka is making plans to provide this support too, although the firm is quick to point out that the purchase contract did not include any clause that required this of it

Repairs will be undertaken by Eureka, in the UK at an address to be announced soon "We are trying to set up after sales service and will not let anyone down We have a very good reputation in this area in France and although the service will not be free we don't expect it to be expensive "

"One of our priorities is to contact all those companies who have produced either software or hardware for Oric in the past We are interested in quality accessories and we want to get the maximum number of people possible working on Oric products, providing that the quality is assured "

"We will be continuing the development of the Stratos machine from the point at which Oric left off but this is not our major priority at this moment We hope to launch at the end of the year but the engineering is not complete yet "

" We want Oric to live again in France It will be the first independent computer company in the country and we intend to make it a success "

Any readers who need to contact Eureka should write to

Eureka, 39-41 Rue Victor Masse, 75009 Paris

Walkies

Staff from US Gold have been raising money for charity by taking part in a 26 mile walk around Birmingham

The "walkathon" was sponsored by Birmingham local radio and Cadbury Typhoo and there were 30,000 contestants Home Computing Weekly were very pleased to have been invited to sponsor them and our donation has gone towards this total The US Gold team raised £100 for charity

US Gold has also taken an interest in greyhound racing by sponsoring the US Gold Software Stakes at a recent meeting at the Hall Green Stadium in Birmingham

The races were held to raise money for a hospice for terminally ill children

The US Gold walkthon team after their exertions

BBC buddy

Bevan Technology has just announced the launch of the Good Companion for the BBC which, it is claimed, will bring the outside world to the user's fingertips

The "bridge" structure of the Good Companions brings a new personal computer appeal to the BBC micro and adds a 3½ inch disc drive facility, according to Bevan Technology

The Good Companion starts at £347 and is available from BBC dealers

Bevan Technology Gresham Chambers, 14 Lichfield St, Wolverhampton, W Midlands WV1 1DG

A new friend for the BBC

Robotix fun

Regular readers of HCW will recall our mention of Robotix from Milton Bradley, in HCW 99.

This new toy is a construction system which involves connecting hexagonal joints to motor units, thereby developing articulated robots. These can then be made to move and take action when connected to a battery unit.

They have now been officially launched and should be available in your local toyshop. What particularly interested us was the possibility of interfacing the robots to your micro.

We weren't the only ones to have the idea. The government sponsored Micro Electronics Education Program has been using the robots to explore and develop [illegible] technology programme.

Patrick Howell, a teacher at Cwmfelinfach Junior School in Gwent, was very impressed with it and he said his children enjoyed it. He started the project by using simple circuits of wire and light bulbs. This led on to work with switches and eventually to the machines being controlled by their BBC computers.

He found that there is plenty of creative work possible. The children were able to [illegible] and write stories about them and even had them [illegible] to music class! by classmates.

[illegible] in some day this [illegible] which will be [illegible] machine [illegible].

Robotix in the classroom

Robotix robotics!

Milton Bradley, 23 Sheen Rd, Richmond-upon-Thames, Surrey TW9 1AE

Hackers in court

Stephen Gold and Robert Schifreen, the alleged Prestel hackers, appeared in Bow Street Magistrates Court again on June 12

They were arrested on March 27 by Detective Inspecter Austen accused under the Forgery and Counterfeiting Act 1981 They were remanded for another three weeks as additional charges under the act are being brought against them and because the defence had only just received the papers concerned

There were about 300 papers according to one solicitor who therefore asked for time to consider the matter further and to decide how the case should be approached in the courts

Despite the change in charges, they face a maximum penalty of a £1000 fine or six months in prison on each charge In Mr Gold's case this could mean 2 yrs in prison and in Mr Schifreen's a fine of up to £5000

The defendents were represented by Mr Spiro and Mr Bate who agreed with the prosecution for a date of July 4 to be set Informed legal sources suggest that the case is likely to go on to the Crown Court after this date

Dragon drives

There is now a disc drive available for the Dragon 32 and 64 computers It has been produced by Cumana

The Cumana Disc Controller is supplied with Cumana DOS, a Dragon compatible operating system in ROM A 34 way ribbon cable connects between the disc drives and controller. Dragon 34 and 64 users can now take advantagef of the speed and convenience of discs

The Cumana disc drives are available in a wide range of capacities, 40 to 80 track, in both single and dual versions

Prices range from £179 95 to £354 95.

Cumana, Pines Trading Est, Broad St, Guildford, Surrey GU3 3BH

A disc drive for the Dragon

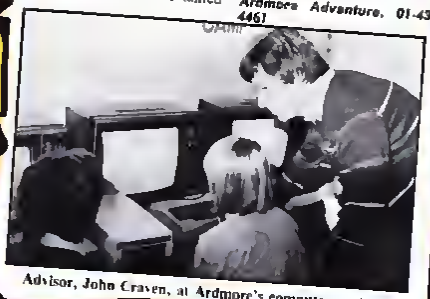
TV or not TV

Ardmore Adventure has recently extended its activity based holidays by joining forces with Crest Hotels for a series of Computer Weekends

The courses are designed for computer users of any level, from absolute beginners to advanced users and are aimed to encourage family participation

TV personality John Craven tried the benefits of the first weekend held at the Crest Hotel in High Wycombe Each course cost £85 for the accommodation and £30 for tuition, with discounts for children

Ardmore Adventure, 01-439 4461



Advisor, John Craven, at Ardmore's computer weekend

CPC 6128 launched

Amstrad has entered the US market with the launch of a 128K machine which first appeared at the Consumer Electronics show in Chicago on 3 June

Supplies of the CPC6128 will be available in the US in the autumn but it is unlikely that British buyers will be able to get their hands on one before the end of the year

Amstrad chairman, Alan Sugar said "We have no plans at the moment to sell the 6128 in the UK this year, indeed it will not be available in the US until the autumn As our plans stand at the moment we are more likely to add it to our range early next year.

Amstrad, Brentwood Hse, 169 King's Rd, Brentwood, Essex CM14 4EF

Software update

One of the most interesting new releases this week is US Gold's Monster Trivia It may sound like a new spoof horror film but in fact it's a game based on Trivial Pursuits, the general knowledge board game which has become an enormous best seller.

Viper Software has released Fiona Rides Out and Dare Devil Dennis back to back on one tape so you can get two games for the price of one and English Software has released yet another new title This one is called Timeslip and is for the C16 and Plus 4 computers

US Gold's best seller Beach Head is available for Amstrad owners at last and PSS has bought out a brand new title called Covenant for the Spectrum

Title	Machine	Price	Publisher
Super Gran — The Adventure	C64/Spectrum	£6 95	Tynesoft
Dropzone	C64	£9 95	US Gold
Phineas Frog	C64	£7 95	Mirrorsoft
Ancient Quests	Spectrum	£7 95	Mirrorsoft
Fiona Rides Out/ Dare Devil Dennis	C64	£7 95	Viper
Dun Darach	Spectrum	£9 95	Gargoyle Games
Timeslip	C16/Plus 4	£6 95	English Software
Covenant	Spectrum	£6 95	PSS
Hustler	C16	£6 95	Bubble Bus
Cave Fighter	C16	£6 95	Bubble Bus
Nodes of Yesod	Spectrum	£9 95	Computer Graphics
Beach Head	Amstrad	£9 95	US Gold
Monster Trivia	C64	£9 95	US Gold
Sword of Destiny	C16/Plus 4	£6 95	Gremlin
Dork's Dilemma	C16/Plus 4	£6 95	Gremlin

Gold standard

Amstrad Consumer Electronics has signed a deal with US Gold to produce a special range of high quality software which will be marketed under the name of Amsoft Gold.

The range will include half of the current US Gold titles including Beach Head, which is claimed by US Gold as the biggest ever seller for the C64.

Amsoft is planning to release 12 Gold titles over the next six months.

US Gold's Geoff Brown said: "The Amstrad computer has quickly become one of the top selling pieces of hardware on the market and we are very pleased that Amstrad is producing our software for their machine. I am sure it will be a very happy and successful partnership."

All titles will come in cassette and disc versions priced £9.95 and £13.95 respectively.

Beach-head — soon available on the Amstrad

A bag of winners

The winners of our Akhter competition came to the smokey city recently to be presented with their prizes

Alan and Norma Boddington walked, or rather hobbled, away with a BBC Computer and a colour monitor Michael Yates took away a colour monitor and Chris Hewthorne a green screen model

They all had a full tour of the Argus offices and met the editors of a number of our sister publications It was an opportunity for them to comment on the magazines and they used it very well We do like to hear what our readers think and we welcome comments from everyone so drop us a line if you have an axe to grind

The day ended with a taxi full of electronics making its way out of Golden Square northern bound

Another recent competition involved designing a Micronet menu screen and we were fascinated with some of the entries They covered a wide range of subjects and visual ideas from fishing — how about a special section called Fishing Net? — to food

The winning entry was by Michael Pendry of Tredegar who managed to draw an excellent likeness of Humphrey Bogart using only the standard teletext characters He wins a modem and a years subscription to Micronet 800 and Prestel

Runners up were I McAuliffe of Harpenden and Tejinterpol Singh Sohol from Coventry The second prize of a modem and three months subscription was won with a menu involving Chatline, Swop Shop, What's New and the index screens by Mr McAuliffe The modem goes to a fine representation of a C64 computer from the side

It was a real surprise that all three winners were Commodore owners but they should soon be chatting merrily to each other via Prestel

Incidentally if any of you wish to leave a message for the magazine using Prestel, you can use mailbox 532860594 Please don't use this for urgent messages though, letters are more certain to be read on a regular basis.

Akhter winners celebrate

MACHINE CODE — THE EASY WAY

David Ellis continues his fascinating insight into machine code programming

Having looked at a few simple machine code programs in the previous articles, it's now time to have a closer look at the registers available on the Z80

The most important of the registers is the Accumulator, usually known as just 'A'. This is the workhorse of the Z80 and many operations will make use of this register. The accumulator is eight bits wide, and so it can hold integer values from 0 to 255. If bit 7 is used as a sign bit, negative values can then be represented. In this instance, values from -128 to +127 can then be represented.

The FLAG register is also 8 bits wide. Each of the eight bits can be either a zero or a one, and these can be set (1) or cleared (0) to signal the result of various operations. The flags are:

bit 7	S	Sign Flag
bit 6	Z	Zero Flag
bit 5	—	Not used
bit 4	H	Half-carry Flag
bit 3	—	Not used
bit 2	P/V	Parity/Overflow Flag
bit 1	N	Subtract Flag
bit 0	C	Carry Flag

The only two flags at which we will be looking in this series will be the Carry and the Zero flag, which will be explained in due course. Some operations are available to work directly on the flag register and it is possible to have a look at the contents of this register if it is pushed on to the stack with the accumulator. Although the A and F registers are PUSHed and POPed on and off the stack as a pair, they are still "separate".

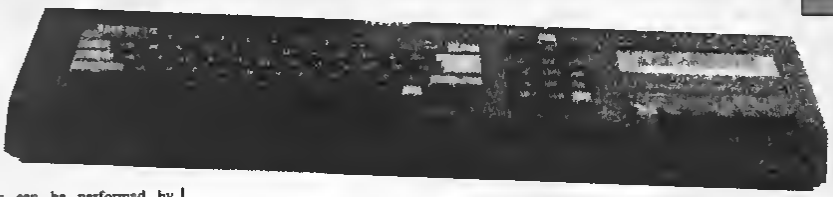
The next six registers are the general purpose eight-bit registers, namely B C D E H and L. They can either be used as eight-bit registers, or combined to form the register pairs BC DE and HL. When combined they can be used as 16-bit "pointers" for memory addressing, or for holding values larger than 255 — zero to 65535 as unsigned, and -32768 to 32765 as signed.

The next four registers are all 16 bits, and are used for addressing only. The IX and IY registers are used for "indexed addressing".

The Stack pointer register points to the top of the stack. The stack is an area of memory used for storing temporary results, which are put on to the stack with a PUSH instruction, and pulled off the stack with a POP instruction. Many clever

Figure 1. The Z80 registers

A	F	Accumulator and flags registers
B	C	
D	E	General purpose eight-bit registers
H	L	
IX		Index register IX
IY		Index register IY
SP		Stack pointer register
PC		Program counter register



tricks can be performed by manipulating the stack, although its misuse can cause the system to crash!

The Program counter register holds the address of the next machine code instruction to be used. Generally, this operation will be sequential (one after the other). Altering the value in the PC is the way in which jumps and loops are performed and this operation is taken care of automatically.

There are many instructions available on the Z80 for manipulating these registers. Listing one shows a small selection of some of these operations, together with the equivalent BASIC instructions. Think of the registers as being "variables" in BASIC — although remember that they can only hold values from 0 to 255 if a single letter, and 0 to 65535 as a double letter. Also remember that although the variables, say DE and D, would be regarded as different in BASIC, in machine code they are not. If you are using the DE register pair to hold an address, then you can't use the D register to hold another value.

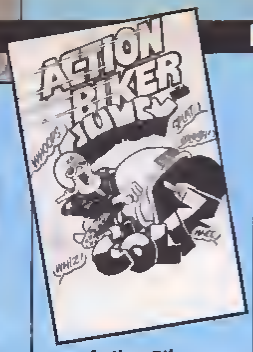
If you did alter the contents of the D register then the address pointed to by the DE register pair would be altered. If you did need to use the D register for a particular operation and the DE pair was holding an address, then you would have to PUSH the DE pair on to the stack, perform the operation, and then restore the value in the DE pair by POPping the value back off the stack. As a matter of fact, this sort of operation is used frequently.

Note just how many BASIC instructions are needed compared to the machine code equivalents in some cases. The LDDR and LDIR stand out particularly here. However, many of these are exceptions. Generally speaking, it will take many more machine code instructions to perform the same operations as those in BASIC. The following articles will try to draw some comparisons between the two, as, hopefully, from studying listing one, you will see that many BASIC and machine code operations appear to be quite similar.

Listing 1. Comparison of Z80 instructions and BASIC

```
Machine code        BASIC

CALL                GOSUB
CP (HL)             IF A - PEEK(HL) = 0 THEN ???
CP B                IF A - B = 0 THEN ???
CP value            IF A - value = 0 THEN ???

DEC (HL)            POKE HL , PEEK(HL) - 1
DEC A               LET A = A - 1
DEC HL              LET HL = HL - 1
DJNZ offset         B = B - 1 : IF B <> 0 THEN GOTO (offset?)

EX DE,HL            TEMP=DE : LET DE = HL : LET HL = TEMP
INC A               LET A = A + 1
INC (HL)            POKE HL , PEEK(HL) + 1
JP address          GOTO address

LD (address),A      POKE address , A
LD (HL),D           POKE HL , D
LD A,(address)      LET A = PEEK(address)
LD A,value          LET A = value
LD C,D              LET C = D

LDD                 POKE DE,PEEK(HL) : BC = BC - 1
                         DE = DE - 1 : HL = HL - 1

LDI                 POKE DE,PEEK(HL) : BC = BC - 1
                         DE = DE + 1 : HL = HL + 1

LDDR                WHILE BC <> 0
                    POKE DE,PEEK(HL) : DE = DE - 1
                         HL = HL - 1 : BC = BC - 1
                    WEND

LDIR                WHILE BC <> 0
                    POKE DE,PEEK(HL) : DE = DE + 1
                         HL = HL + 1 : BC = BC - 1
                    WEND

OR (HL)             LET A = A OR PEEK(HL)
OR D                LET A = A OR D

RET                 RETURN
RET C               IF CARRY = 1 THEN RETURN
RET NC              IF CARRY = 0 THEN RETURN

SUB (HL)            LET A = A - PEEK(HL)
SUB value           LET A = A - value
SUB L               LET A = A - L
```

SOFTWARE



Action Biker

Commercial television comes to computer screens While this little gem of a program is loading you not only get the expected title screen but also a tasteful ad for KP Skips If this helps to keep Mastertronic games at £1 99 then I won't complain (carefully avoids puns about nibbles and bytes and get on with the review! Ed)

The idea is to play the role of Clumsy Colin as he tears about the town on his motorcycle picking up spare parts Some of the spares are really useful items adding extra speed and power to the bike and if you fund all the parts you can enter the drag race at the end of the game

The graphics scroll through a full 360 degrees as you steer Colin around the various parts of the town There's a building site, a fairground, several lakes, a garage and a race track all superbly represented in high lateral perspective 3D

Only one 'find' is shown on the map at a time As more and more objects are collected they become harder to reach by being placed on the scaffolding of the building site or the roller coaster

Because the bike can be facing in any direction on the screen, selecting left or right turns can be difficult I was surprised to find how quickly these orientation problems can be overcome and soon found myself zooming around like an urban Barry Sheene

Even if this was not a bargain price game I would recommend buying it, at this price I demand that you do! **E D.**

Price: £1 99

Publisher: Mastertronic

Address. Park Lorne, 111 Park Rd, London NW8 7JL

C64

Glass

Once more I find myself marvelling at the graphics on a game, only to fall asleep once I've actually played it

There's no doubt about it, Glass is graphically excellent, but though it has elements of the Star Wars arcade game (the plain with various towers, through which you must fly), and Buggy Blast (the defence droids which you must knock out), I found that the game itself was not very challenging or addictive You can get through most screens simply by keeping your finger on the fire button and firing randomly all over the place Of course, as you get on to the higher levels (there are 14 in all) the action does get faster and more demanding, but as each level differs from the previous one only in speed, and not in content, I found that I just couldn't be bothered with going through the repetition of the same screens over and over again

Some of the graphics are as good as anything I've seen on the Spectrum, and the speed at which the towers on the plain come at you, without any flickering of the graphics, is very impressive So too are the pictures of cities and spaceships in some of the later screens, but, as the instructions are sparse to the point of being negligible, I didn't really understand the point of these scenes Clearer instructions would definitely help, though I doubt if they would make the game any more exciting **C.J.**

Price: £7 99

Publisher: Quicksilva

Address: Liberty Hse, 222 Regent St, London W1

SPECTRUM

Planet Attack

It doesn't take a dose of second sight to suss that this is a version of that well thrashed favourite, Skramble I won't bore you with full details of the overall idea other than to say that it required you to fly through a number of caverns, shooting or avoiding various adversaries In order to replenish your decreasing fuel levels, you must bomb fuel dumps Get to the end of the caverns and you start again but at a more difficult level

That all sounds pretty dull, so what does this version offer? Well, the answer is quite a lot First, the graphics are quite interesting with scrolling character patterns and other effects After the first zone things become a little unusual Most of your time passed snaking down a complex passage, the latter stages of which reflect a severe dose of Jeff Minter, with flying birds and toilets with flapping lids Additionally, you must negotiate a pin table with quite tight passages The last zone has force fields to avoid One slight peculiarity is that unlike other Skramble clones, fuel dumps are not completely destroyed when you hit them With care you can hit each dump twice getting double fuel

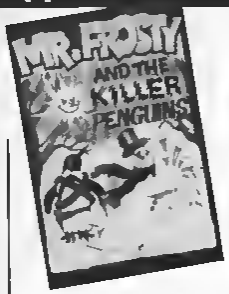
The scrolling is smooth and the game has quite a professional feel to it The game play is good and very enjoyable Notwithstanding the innovations though, there isn't enough in it to justify buying this game if you already have a copy of Skramble If you don't, at the price, it's a snip **A.W**

Price: £1 99

Publisher: Scorpio Gamesworld

Address. 307 Corn Exchange Buildings, Cathedral St, Manchester

C64



Mr Frosty and the Killer Penguins

Well, folks, it's cutie time You control Mr Frostie — a snowman — and must help him collect snow balls so that he can build a snowman called Shivery Sam Your activities are impeded by nastty killer penguins and other hazards. The game is really a routine platform game in which you must move up ladders across moving platforms and other areas, in order to collect snowballs Once a screen is completed, you enter an intermediate screen showing how far you've progressed on the snowman

Graphically, the game is rather average with ordinary character designs and lots of white with a few blue bits Animation is very poor The first action I took when playing the game was to turn down the TV volume The sound effects are extremely irritating

The bad news is that the game play is extremely poor Everything moves at the speed of light and it's almost impossible to control the snowman Couple this with the very tight tolerances for collisions, and you have an almost impossible game Only once did I complete the first screen and then I got stuck on the middle bit The instructions are minimal and I felt that the portion suggesting that you detune the TV to get a snow effect pretty well summed up the quality of the game

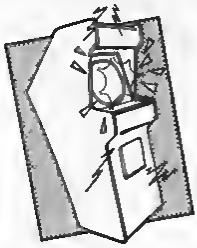
Even at the budget price, this game offers little and I really cannot recommend it A W.

Price: £1 99

Publisher: Scorpio Gamesworld

Address: 307 Corn Exchange Buildings, Cathedral St, Manchester

C64



Ciphoid

From the name of the publisher of this game, I assume that this is part of an antidote to US Gold But, if that's the case, then I doubt that our US friends will be too concerned

Superficially, this game holds much promise with its claims for hi-resolution 3D graphics In reality, this means a well drawn, multicolour bit map backdrop which gives a pretty good 3D view of a planet surface As the game starts this view scrolls to give the impression of the sun traversing the sky Unfortunately, the scrolling is rather lumpy and unconvincing

The idea is to repulse a wave of attacking space ships This is achieved by lining up a set of cross hairs and zapping The space ships also shoot at you, their shots appearing as spheres which grow bigger as they approach Once you have cleared the space ships, you must destroy a mothership with 10 well placed shots before it breaches your defences Fail, and Earth is destroyed

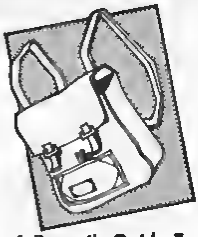
The attempt to achieve a 3D effect is laudable, with well drawn shace ships which swoop as they attack The explosion effects are fair and look quite impressive, albeit a little static The main problem is that the game is boring with little to do other than destroy alien ships True, the action is quite damanding, but a little more variety would have helped I don't think I'll be playing this game too often, I'm afraid A W

Price: £9.95

Publisher: GO Standard

Address: Church Row Chambers, Franklands, Longton, Preston, Lancs

C64



A Parent's Guide To Educational Software

This is one of the Daily Telegraph's educational publications and is a compilation of chapters by various authors under the editorship of Dr Bill Tagg Dr Tagg is the Director of the Advisory Unit for Computer Based Education at Hatfield, and many of the contributors belong to the government backed Micro-Electronics Programme or are in University computer based learning departments

The book is extremely easy reading — despite its highly academic authorship — and can be read in its entirety or dipped into for specific chapters The chapters cover a wide range of subjects, from the role of the computer in education, through points to consider before buying a computer, information handling programs, Logo and what to look for when buying software There is one chapter devoted to the 75 programs the Advisory Unit believes to be the best available

As I mentioned this is a very readable book but it does have its faults Its title gives the impression that it will help parents to find software of use to them in the home, yet most of the chapters give more information about how the computer is being utilised as a very exciting tool in our schools Further, most of the software described is for just those machines most extensively used in schools — the wide range of home computers available is virtually ignored Overall, a book to be borrowed from the library before deciding whether or not to buy it M W.

Price: £5 95

Publisher: Telegraph Publications

Address: 135 Fleet St, London EC4P 4BL

C64

★ ★ ★ ★ ★

Flipped

★ ★ ★ ★

Hooked

★ ★ ★

Keen

★ ★

Yawning

★

Comatose

R E V E W S

CS Clive

Even software houses can't let Sir Clive forget his car experiment, and Scorpio is no exception A good, simple, tongue-in-cheek game that puts you in the seat of a C5 that can fly and do 60 miles without stopping

The first screen offers options of Learner, Sunday, Experienced or Advanced driver and Instructions, which explains that returning home from work at a software house you meet Honest Lez, who sells you a C5 at a bargain price of £399 99, which you drive home.

You start off with four batteries and it moves across the screen unaided Failing to avoid obstacles such as ghosts, trees, cats, walls and runaway prams causes you to lose one each time

The first part of the game requires you to collect batteries from each of the screens and the second part sees you driving through rush hour city streets There's an extra life given after screen 20 Each screen is one mile long! and the number at the top states how many miles left

While it is assuredly good value for money, it may be that for those who are used to 3D representations the graphics will cause frustration You do not move behind trees or walls but above them — otherwise you'll crash into the treetop foliage, for example Once used to this, and that the sky itself is an obstacle — it is a fun game

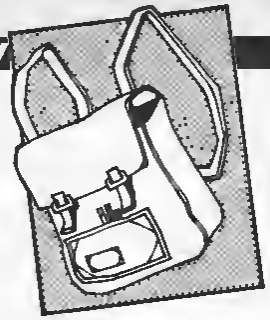
T.W.

Price: £1 99

Publisher: Scorpio Gamesworld

Address: 307 Corn Exchange Buildings, Cathedral Street, Manchester

SPECTRUM



Decision Maker

The Brainpower series of tutorial and application programs from Amsoft continues to expand.

Widening the range of subjects covered, this program comprises the three elements that have now become standard format in this series: a comprehensive instruction book, a dedicated tutorial and the main application program

Learning with the computer is more expedient than previous methods This is especially noticeable where the discipline is complex and the conventional learning process arduous.

Decision analysis is all about making the best choice from a list of options Decision Maker ensures that within pre-defined parameters the best choice is offered for consideration

Many of life's decisions have a pecuniary element attached to their final choice, so it will come as no surprise to learn that this program leans in this direction, and is excellent value for money

The instruction book comprises 12 chapters, each dealing individually with the various attributes specifically associated with the subject.

A concise explanation of the teaching method adopted for use with the tutorial program is followed by a fully worked example

Purporting to instruct the newcomer in the compilation and comprehension of analytical trees, the tutorial program is used in very close collaboration with the first part of the instruction book

Progress through the course is geared to your own speed of learning Test routines abound to ascertain your understanding and familiarise you with the procedures

A painless transition from simple to more complex aspects of decision analysis is therefore easily accomplished, resulting in a thorough appreciation of the subject

During the teaching process the screen display is largely devoted to menus and tree diagrams Eye strain is reduced to a minimum by printing most of the textual instructions in the book

Several enlightening examples are used throughout the teaching program Jumping back and forth from one to the other was a little disconcerting Perhaps one good example embracing all the main points would have added to the overall clarity

The application program allows you to evolve your own trees tailored to suit your own problems The analytical tree is similar in appearance to a family tree turned sideways

Each branch culminates in either a decision or a chance label, subsequently leading to a termination

In its entirety, the tree is displayed in mode 2, close inspection of an individual branch is shown in mode 1, making for easy reading

On completion, the tree can be modified using the sensitivity procedure This alters all of the associated products, giving a valuable insight into the way minor changes of parameter values cause major alteration to the end result

My only real criticism of this program is the old moan about the slowness of sequential file handling with cassettes This is only a chore during the teaching process which once learned is no longer relative

Progress was accelerated by transferring the program to disc storage, which is how it is packaged.

Slightly expensive for occasional use, though time- and money-saving if well worked

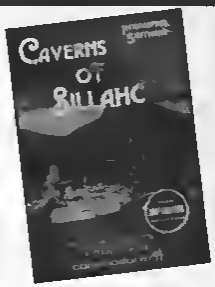
D.H.

Price: £24 95

Publisher: Amsoft

Address: 169 Kings Rd, Brentwood, Essex

AMSTRAD



Caverns of Sillahc

This game demonstrates its originality by its name Yes you guessed it, it's the author's surname in reverse — neat, eh? In fact, that's probably the only original bit of the game, as you will soon surmise

According to the scenario printed on the cassette insert, the game involves exploring subterranean caverns and retrieving agricultural androids In order to achieve this goal you must avoid aerial mines and sundry obstacles Your vehicle, a converted agricultural robot sprayer — sic — is equipped with the mandatory plasma guns Apart from a few cosmetic changes, this game is effectively very similar to Fort Apocalypse This is particularly evident in the underground section

The graphics are clean, colourful and well designed Animation and scrolling are smooth and well implemented

Your spaceship looks rather like an ovoid with big ears and has an annoying habit of dropping to the ground unless you take suitable action. To add to your problems, the ship has limited fuel reserves Although I haven't proven it, I suspect that the only way of refueling is by locating certain points within the caverns To collect the androids, you simply hover over them

Overall, this program is well written and does have an addictive element This factor, however, is due more to the concept than the implementation The instructions are a model of poor grammar but were good for a laugh M.W.

Price: £7

Publisher: Interceptor Micros

Address: Linden Hse, The Green, Tadley, Hants

C64

R E V I E W S

Maze

If you think you can use a compass blindfold then this game is for you. The aim is to find your way through a two-dimensional maze and find objects which will enable you to gain entry to a higher level

Three coloured tags must be found and dropped into an indestructible box When this has been done the box can be opened to obtain an electronic security key which will give entry to a computer controlled lift to a higher level

You start with three lives and three bullets in your gun, which you use to destroy the robots You can gain extra bullets by running over power points Although the robots can be heard approaching, it is difficult to ensure you are pointing in the right direction to shoot them and in the meantime they can kill you The higher the level, the more robots you have to contend with

Maze is too complex to memorise but a plan view of your journey can be called up at any time However, this only shows the part of the maze along which you have travelled and the positions of the features you have found up to that point One useful bit of information given by the plan is the position of the robots but this view cannot be seen while moving

The game can be controlled by the keyboard or joysticks and freeze game and sound on/off options are provided

J.H.D.

Price: £9 95

Publisher: Acornsoft

Address: Betjeman Hse, 104 Hills Rd, Cambridge CB2 1LQ

BBC

Moon Buggy

Something a bit different in the arcade game department After loading, a moonscape, with quite a lot of detail is presented, with the front section strewn with rocks and holes scrolling past. You control a fairly crudely drawn six-wheel moon buggy which can be accelerated, decelerated and jumped by means of the joystick In addition, you have at your command laser blasters and rockets

For a few seconds, life is simple, jumping holes and blasting rocks Suddenly, however, you are assailed from above by a flight of alien ships Now you have three things to cope with Hit a rock, and you crash, get landed with a rocket and you explode, but fall into a hole, and all three sets of wheels come off and go sailing by! Strangely, should you miss one of the alien ships, it flies backwards, with a jet emanating from its rear, and makes another bee-line for you! Equally disappointing is the rather unimaginative use of sound, and the rather unexciting crashes

Should you survive, the next level features little rocks, and more of the same aliens, just that bit harder! As an exercise in co-ordination and nerve it couldn't be better Indeed, the concept is very good, owing perhaps just a little to Skramble in some respects What comes as a disappointment, therefore, is the lack of little finishing touches which would change what is an entirely adequate game into something rather outstanding, which the CPC464 badly needs

D.M

Price. £7 95

Publisher: Anirog

Address: Unit 10, Victoria Pk, Victoria Rd, Dartford, Kent DA1 5AJ

AMSTRAD

Repton

Here's your chance to win £100! Superior Software are offering this to the first person who can complete all twelve screens of their latest release, Repton Proof of completion must be a photograph of the congratulatory message and the closing date for entries is September 30th

Each screen has a different maze layout, through which you have to dig to reach diamonds When all of them have been collected you are given a password that must be entered to allow progress to the next screen Rocks are strategically placed throughout the tunnels. These will fall when earth is removed, so a carefully planned and cautious route must be taken to avoid being trapped or squashed On the first eight screens there is a map available to help you

The first screen is easy to negotiate, but after that some diamonds will be locked away in safes To open these a key must be located Eggs are also encountered from which may hatch a hungry reptile, hot on your heels

A time limit is set for the completion of each screen If you take too long, you lose a life The instructions maintain that it is possible to complete each screen without losing a life, but this allows no mistakes

Using passwords to enter various screens is a useful idea Once you know them you can start wherever you want By some inspired guesswork, however, I was able to identify 6 passwords, but not, worst luck, the one for the final screen

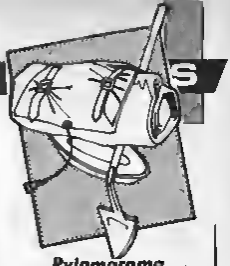
J.W.

Price: £9 95

Publisher: Superior Software

Address: Dept C, Regent Hse, Skinner Ln, Leeds LS7 1AX

ELECTRON



Pyjamarama

This fast-moving multi-screen graphic adventure throws you in the midst of a gargantuan nightmare

Your phrenetic trip continues until you find the alarm clock and set it to wake you up

Starting with a demo routine that gives some indication of the mindbending hazards ahead, the game incorporates a multitude of screens, all obviously the result of considerable artwork

As a Wally, you control the movements either with a joystick or through the keyboard

A careful eye must be kept on the amount of energy remaining in the snooze time This is depicted as a rapidly diminishing glass of milk

Everything in this nocturnal fantasy is larger than life and positioned without rhyme or reason Don't be surprised to find a spaceship at the bottom of the staircase!

Overcoming the various hazards can only be achieved if you are carrying the right articles at the right time

In true adventure tradition the objects collected must be dropped and swapped until you are tooled up in the right configuration

Colliding with certain antiwally mobiles saps your energy You can only restore it by finding the assortment of food meagrely scattered throughout

After three snooze times the game ends with a very personal message, followed by a percentage mark indicating how far you've travelled

A difficult game to win, but extremely challenging with good graphics and sound, perpetually maintaining an interesting screen image

Not particularly good value for money, but then Amsoft's price policy seems to be stuck in a rut

D.H.

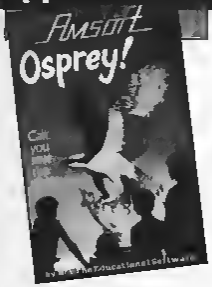
Price: £8 95

Publisher: Amsoft

Address: 169 Kings Rd, Brentwood, Essex

AMSTRAD

R E V I E W S



Osprey!

Based on factual events surrounding the magnificent osprey, this is a strategy game for younger players

The Royal Society for the Protection of Birds has engaged wardens at Loch Garten on Speyside since the mid-1950s, when for the first time in half a century two of these birds were seen nesting

Now, after 30 years' vigilance there are about two dozen pairs and the numbers are slowly increasing Accompanying the software is a 30-page colour booklet giving a more detailed history of events leading up to the return of the osprey to Scotland

In attempting to do even better than the RSPB, your responsibility is in deploying a varying number of wardens in the most effective manner Most harm and damage is caused by egg thieves and noisy motorists, an important part of the strategy involves educating the public to an awareness of these problems

The main screen displays are used alternately The first one is entirely textual, giving the status quo both at the beginning and end of each season

Though unsophisticated, the graphics screens are bright and clear A view of Loch Garten is shown, along with the car parks, wardens and egg thieves, who are seen pilfering at night. A daytime view shows the osprey in flight and diving for fish

Another worthwhile program from Bourne Educational Software, marketed by Amsoft

D.H.

Price: £9 95

Publisher: Amsoft

Address: 169 Kings Rd, Brentwood, Essex

AMSTRAD

Tapper

A superbly drawn loading screen leads, after a jolly tune, straight into a demonstration of the game which revolves around the working life of a frenzied bartender, who tries to keep an endless flow of thirsty customers contented The next screen allows you to, read three pages of clear instructions in redefined character set; change the number of players, change the skill level, and choose keyboard or joystick

You have to keep throwing sodas, collecting tips and the empty glasses that customers sling back to you. If you supply too many sodas, fail to collect an empty glass or fail to serve a customer on any of the four tables then you lose one of your four lives

Successfully serving all the customers in the first, Old West Saloon leads to the Jock Bar, then the Punk Bar and finally the Space Bar with a visit to the Soda Bandit's Bunko Booth between each screen, where you must decide which Pepsi can is unshaken and won't spray you when it's opened

Selecting the correct can in the Bonus Round scores 3,000 and picking up tips 1,500, plus the appearance of two dancing girls on stage causing customers to watch and allow drinks slung to them to fall off the bar Each mug caught scores 100 points and a screen completed 1,000 The score is displayed screen top left, and lives at right

A very playable game that easily becomes addictive, but an unserved customer can become murderous — be warned T.W.

Price: £7 95

Publisher: US Gold

Address: Unit 10, Parkway Ind Centre, Birmingham

SPECTRUM

Herbert's Dummy Run

Herbert's at it again — making a nuisance of himself as in 'Everyone's a Wally'. Now he's a nappy clad, walking toddler wandering off while shopping with Wally, and Wilma in a department store

The tune 'Babyface' signals that LOADing's been achieved, offering options of Sinclair Kempston joysticks or keyboard The game starts with Herbert in the Toy Department needing reuniting with his parents in the Lost and Found department before the store closes at 5 30p m

As one would expect from Mikro-Gen, the game is well-planned and designed with superbly drawn and coloured screens The animation is smooth and new screens appear when Herbert moves through doors — or takes a short cut to eight of the many rooms via a lift with four coloured keys that make a face smile when hit

The screen top has a large teardrop, which fills when Herbert is hit by any of the various attacking inhabitants of the store, three small teardrops showing lives left, time — starting at one o'clock — and two items collected, starting with a chocolate ten pence and tennis raquet

When Herbert loses a life the large teardrop empties itself by causing a cloud to rain on him! — just one refinement that puts Mikro-Gen consistently out in front After using all three lives you are told that Mummy and Daddy are still in the 'lost and found' with a number of jelly babies and the time until Herbert survived

Must leave now — haven't found 'lost and found' yet

T.W.

Price: £9 95

Publisher: Mikro-Gen

Address: 44 The Broadway, Bracknell, Berks

SPECTRUM

Classic Racing

Your management of a stable of 16 racehorses — along with a fair sprinkling of luck — will determine who wins this fascinating game

A maximum of six players can participate; less than this number and the computer fills the gaps This is a bit iffy really After all who knows as much about the program as the chips?

Financial resources can be gained either by winning a share of the prize money in each race, or by winning bets on the right horses The winner is the player who finishes the game in the most affluent position

Each race meeting consists of six races If you are going to attend all 16 meetings then get the beer in first It will take all night to complete

Played amongst six of us, we found the shorter version of just four race meetings was riotous, and had us all elbowing to see the finish line approaching

The graphic representation of each race is excellent with each horse vying for position just like for real!

No affinity to the sport is necessary The full set of six players maximises the interaction with coarse commentators imitating course commentators.

All the races are run over various distances, giving the owners a chance to see each horse's form Winning the classies puts you into the big money league and increases your chances of winning the entire game

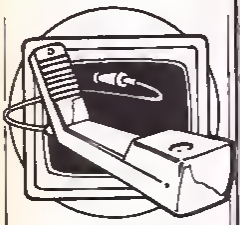
A pricey program but well worth the gamble D.H

Price: £8 95

Publisher: Amsoft

Address: 169 Kings Rd, Brentwood, Essex

AMSTRAD



TELECOMMUNICATION

Doreen Naylor, speciolist in telecommunicotions, gives you the rundown on how it all works

In the past telecommunications has been confined to industry and commerce but advances in technology in the field of microcomputers and modems have led to a drop in price of hard-wired modems which in turn has encouraged home computer hobbyists to jump on the telecommunication band-wagon. They can now leave messages, send data, swap programs etc and as a consequence the modem has become a popular peripheral.

Articles on telecommonication were virtually non-existent a few years ago but they have now mushroomed and become a regular feature in many magazines, indeed there is now a magazine which specialises in telecommunication, and advice for the domestic user is generally more available.

Home computers with a RS232 port can be linked to a telephone via an acoustic coupler or a modem. If the computer is not fitted with RS232 port, then it is necessary to obtain a suitable interface specifically designed for the computer.

There are numerous modems on the market, some of which are still awaiting BT approval. This has caused confusion to prospective purchasers. I am of the opinion that one should avoid acquiring a modem with a single baud speed as it may mean additional modems are needed to access different databases.

This proves uneconomical and impracticable if one has to fiddle with cables, perhaps resulting in link-up failures. A better purchase is a modem with 'originate' and 'answer' modes which are essential for Dircomms (back-to-back or computer to computer). An initial voice link-up is not possible for deaf people, so we have adopted the following procedure: recipient of the telephone call is set to 'answer' whilst the person making the call is in 'originate' to complete the loop. We have also settled for TX300/RX300 as the standard for initial link-up, perhaps using TX1200/-RX75 for downloading programs and lengthy text.

Current trends in modem design are very attractive when software controled with auto-dial/auto-answer and in some cases with auto-scan facilities.

To sum up I would suggest a hard wired modem which has variable speeds to give maximum flexibility and enables the user to access virtually every database and bulletin board available. For portability, an acoustic coupler is acceptable because they can be battery powered.

Software

Terminal software is required to drive the modem. It is convenient to have the program in ROM as it enables one to log on instantly and is a necessity in Dircomms. The Commstar is a fine example of software in ROM for use with the BBC micro. It gives the operator a wide choice of facilities to call upon. The Maplin modem for the Spectrum has the terminal program in ROM contained inside the modem itself. Specterm is a terminal program on cassette tape for Spectrum users not using the Maplin modem. But for Dircomms you need rapid access to the terminal program so a Microdrive or Wafadrive will be necessary to store the terminal software.

Having chosen the modem and software you are advised to step into the world of telecommunication by exploring the free bulletin boards, thereby meeting new friends and gaining confidence on the way. They are very user friendly, just dial the number and you will be guided along by the appearance of menus which allow you to explore and make use of the facilities provided. Most newcomers tend to be timid, feeling that they may corrupt the system. However, incorrect procedures will not damage the system, instead you will be prompted by further instructions.

Example of menu

<R> ead read messages on board

<Q> uick-scan quick-scan of messages on board

<L> eave leave message on board

<(M) ail electronic mail section
<(S) igs special interest groups
<(T) ime elapsed time
<(G) oodbye terminate session
<(D) ownload download programs
<(C) hat talk to SYSOP (system manager)
Command:

If you press key L at Command you will be taken to 'Leave Message on Board' section and a further menu will appear with options etc

Some bulletin boards have a time limit of around 12 minutes so it's handy to have a printer online obtaining a hardcopy of the instructions, alternatively save into buffer and view offline

Jargon Widely Used in Telecommunication

Modem An abbreviation for MOdulator DEModulator it is an electronic device which interprets the signal that comes in and out of the computer, and translates it into a form which can be transmitted down a wire to another modem. This modem in turn is connected to a computer which understands it

Acoustic Coupler A device into which the telephone handset is inserted The coupler converts electrical signals sent to it by the computer into audible tones that can be sent down the telephone line and understood by the computer

Baud The measurement of speed sent down the telephone line, generally measured in bits per second Therefore 300 baud = 300 bits per second Widely used baud rate is 1200/75, as used for Prestel databases, followed by 300/300 baud

Full Duplex transmitting data can be sent in either direction at the same time

Half Duplex transmitting data can be sent in either direction but only one direction at a time

PSS British Telecom Packet Switching Service is a cheap and fast method of sending data-only over the ordinary telephone network There are only 25 PSSE points in this country Aberdeen, Belfast, Birmingham, Brighton, Bristol, Cambridge, Cardiff, Edinburgh, Glasgow, Ipswich, Leeds, Liverpool, London (3), Luton, Maidstone, Manchester, Newcastle, Nottingham, Portsmouth, Reading, Sheffield, Slough More are planned in the near future.

Modem entry point into a communications network eg PSS

Databases

Telecom Gold

This system can be accessed via the PSS Network and offers a 24-hour service by British Telecome Electronics Mail, otherwise known as Email Both sorts of equipment are acceptable, baud 300/300 or 1200/75 but I find 300/300 the better speed. It's so frustrating uploading at 75 baud. The 'Chat mode' is a real boon, you can chat with anyone on the system in Britain, or abroad, at the cost of a local call through PSS British Telecom concentrates on communication between dispersed subscribers rather than the communication of information held on the host system, as with Prestel

Subscribers to Telecom Gold get a NUI number (Network Users Identity) together with a password which can changed by the subscriber for security

Cost: Official cost for joining the system is £100 + VAT The facilities are too numerous to list here, but the main charges are as follows:-

Connect times: (Standard rate = 0800-1900 Monday to Friday excluding public holidays)

First 250 hours charged on any bill	— 10 5p per min
Next 250 hours charged on same bill	— 8 5p per min
Thereafter	— 3 5p per min
Cheap rate = all other times	— 3 5p per min

Filing:

First 2500 units	— 20p per 2048 characters per month
Next 2500 units	— 15p per 2048 characters per month
Any further units	— 10p per 2048 characters per month

Facilities: Sending mail, filing system, telex and international mail, noticeboard (for sale or wanted), conferencing system, diary system, radiopaging system, telemessage system, forms system (pre-formatted messages ideal for the salesman), 'chat' system, and spellcheck etc

Could this system eventually replace the conventional Postie?

Prestel:

This was the world's first viewdata service set up by British Telecom, in 1978 and aimed at business users. Information providers use Prestel as host and charge the public for accessing their information A frame of information costs up to 10p

There are many subdivisions within Prestel which are closed user groups The Labour Party uses it for administrative communication during elections and Trades Unions such as NALGO and the National Farmers Union, employ Prestel as a central information source Major banks and Building Societies have made 'armchair shopping' popular through schemes such as 'Homelink' run by Nottingham Building Society But the successful closed user group is Micronet. Aimed at home micro users, programs can be downloaded free or at reduced prices

The speed is uniform baud 1200/75, receive at 1200, send at 75 which is the standard

Cost: There is no initial charge to join Prestel, you only pay quarterly mailbox rental at £5 An extra £10 per month for closed user group eg Micronet will have to be added to the bill as well as frame charges etc

0800 to 1800 Monday to Friday	— 6p per minute
0800 to 1300 Saturday	— 6p per minute
At other times	— Free

Access to Prestel via PSS incurs a further charge of 2p per minute)

Facilities: Armchair shopping, miscellaneous information, telesoftware, reviews, entertainment, banking, closed user group etc There are about 350,000 pages of information available

Compunet:

Database is similar to Prestel but aimed at Commodore users

It must be emphasised that the only means of accessing Compunet is via Commodore's own modem It cannot be used to access other databases or bulletin boards

To access Prestel, one would have to download a special viewdata program from Compunet but this can't be used to download from Micronet without the official modem

After a short exploration into Compunet, I found Compunet's error-checking protocol procedure annoyingly slow when compared with Prestel and lexds to additional time online

Cost: A Commodore modem comes complete with ID, password and a year's free subscription Thereafter it is likely to be £30 per year, depending on the success of the system

Facilities: Mailbox, telesoftware (downloading and upload), banking, 'armchair-shopping', Comp-u-card etc

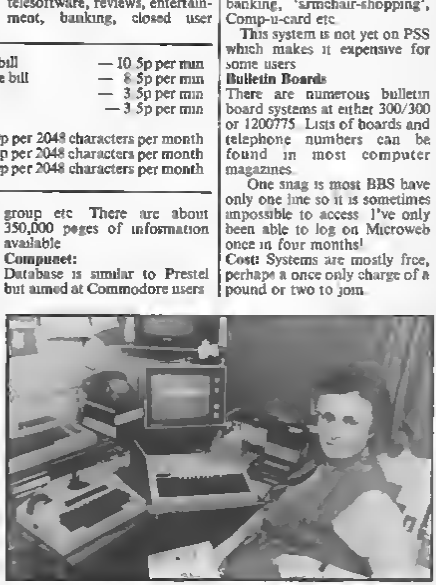
This system is not yet on PSS which makes it expensive for some users

Bulletin Boards

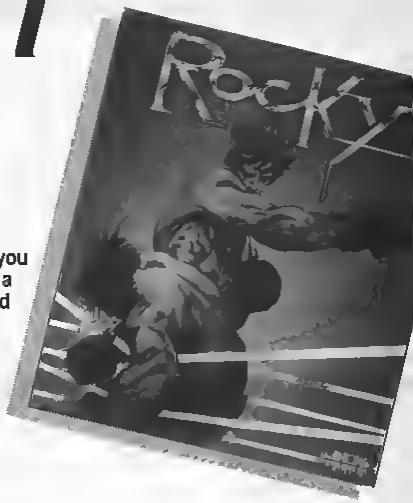
There are numerous bulletin board systems at either 300/300 or 1200/75 Lists of boards and telephone numbers can be found in most computer magazines

One snag is most BBS have only one line so it is sometimes impossible to access I've only been able to log on Microweb once in four months!

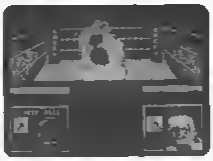
Cost: Systems are mostly free, perhaps a once only charge of a pound or two to join



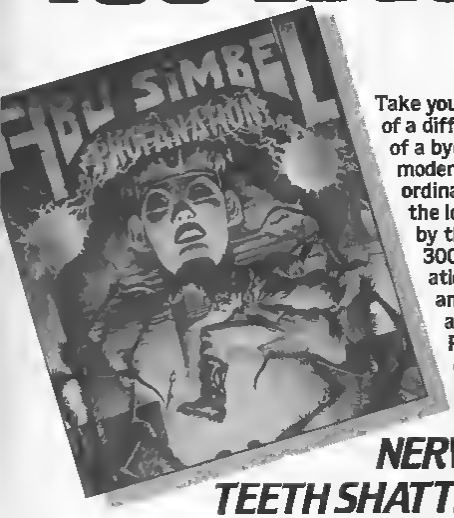
IF YOU DON'T LOSE YOUR TEETH!



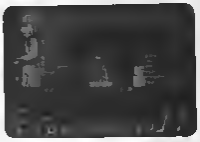
Bite hard on your gumshield and up with your guard as you enter the battle with 3D action and take on the fight of a life-time against Cimbel-Lin, Ted Matare, Jansen Sino and Fighter Bull. Emerge victorious from all 4 rounds and you'll have earned the World Championship Crown.



YOU'LL LOSE YOUR NERVE....



Take your life in your hands in a fight of a different kind against the horrors of a bygone age as Johnny Jones, modern day hero and explorer extra-ordinaire, has finally discovered the the lost Temple of Abu Simbel, built by the great Pharoah Ramses II over 3000 years ago. In frenzied desparation he enters this secret world and is drawn into a frightening adventure, threatened by the Pharoah's curse, in constant danger until he can reach the inner mortuary chamber.

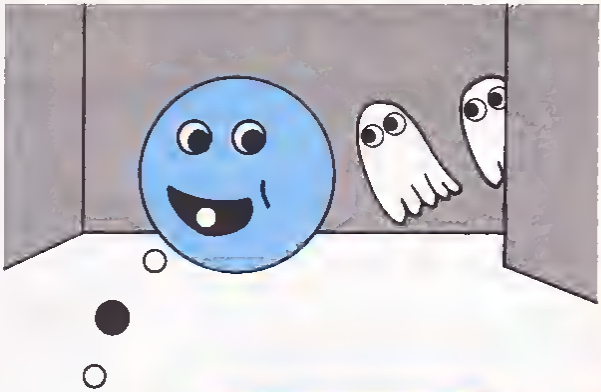


NERVE TINGLING SUSPENSE AND TEETH SHATTERING EXCITEMENT FROM TWO NEW GREMLIN GAMES

Gremlin Graphics

Gremlin Graphics, Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: (0742) 753423

MAZE MAULER



Try this version of the classic arcade game from Stephen Gray

In this version of an old arcade favourite, you must guide the Maze Mauler through the maze, gobbling the dots and dodging the ghouls. Eat a red power pill for a chance to get your own back and gobble the ghouls. Eat all the dots and you move onto the next faster level.

The controls are: Z-left, X-right, :-up, /-down

Variables

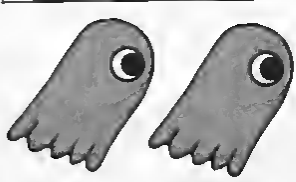
S% score
L1% lives
DEL% delay speed of game
L% level
P% dots eaten
D% are you touching a ghoul?
K% have you eaten a power pill?
X%,Y% Mauler's co-ords
GX%,GY% ghoul 1 co-ords
HX%,HY% ghoul 2 co-ords
MX%,MY% Mauler's last co-ords
B$ black block
M$ Mauler
G$ ghoul
G% which ghoul moves next
Data$,Char$,ROW,COL, used to print maze
H%(5) hi score array
N$(5) hi-score names array
Y% rank

How it works

80-100 initialisation
110-210 main loop
230-370 Mauler subroutine
380-520 ghouls subroutine
530-940 set up screen subroutine
950-1190 initialisation and instructions subroutine
1110-1100 new level subroutine
1200-1290 dead subroutine
1300-1530 hi scores subroutine
1540 starts new game

```
   10 REM ********************
   20 REM * Maze Mauler      *
   30 REM * by Stephen Gray *
   40 REM * BBC Model B     *
   50 REM * For H.C.W.      *
   60 REM * Grayface        *
   70 REM ********************
   80 ON ERROR IF ERR=17 RUN ELSE MODE7:REPORT:PRI
NT" at line ":ERL:END
   90 MODE 7:PROCINIT
  100 BX=0:L1%=3:DEL%=75:L%=0
  110 MODE 5:PROCSCREEN
  120 PROCMAULER
  130 IF P%=284 PROCLEVEL:GOTO 110
  140 IF D%=1 AND K%=1 D%=0
  150 IF D%=1 PROCDEAD:IF L1%>0 GOTO 110
  160 IF L1%=0 GOTO 1540
  170 PROCGHOULS
  180 IF K%=1 AND TIME>400 VDU19,1,10;0;
  190 IF K%=1 AND TIME>500 VDU19,1,1;0;:K%=0
  200 FOR A=1 TO DEL%:NEXT
  210 GOTO 120
  220 DEF PROCMAULER
  230 IF X%=GX% AND Y%=GY% OR X%=HX% AND Y%=HY% D%
=1
  240 MX%=X%:MY%=Y%
  250 IF INKEY(-98) AND POINT(X%-64,Y%)<>3 X%=X%-6
4:GOTO 300
  260 IF INKEY(-67) AND POINT(X%+64,Y%)<>3 X%=X%+6
4:GOTO 300
  270 IF INKEY(-73) AND POINT(X%+8,Y%+32)<>3 Y%=Y%
+32:GOTO 300
  280 IF INKEY(-105) AND POINT(X%+8,Y%-32)<>3 Y%=Y
%-32:GOTO 300
  290 GOTO 350
  300 IF POINT(X%+30,Y%-16)=2 P%=P%+1:S%=S%+10:VDU
4:PRINTTAB(0,1);S%:SOUND1,1,60,1:VDU5
  310 IF X%=GX% AND Y%=GY% OR X%=HX% AND Y%=HY% D%
=1
  320 IF D%=0 AND POINT(X%+32,Y%-16)=1 AND K%=0 K%
=1:VDU19,1,2;0;:TIME=0:SOUND 3,3,100,5
  330 MOVE MX%,MY%:PRINTB$
  340 MOVE X%,Y%:PRINTM$
  350 IF D%=1 AND K%=1 AND GX%=X% AND GY%=Y% SOUND
 2,4,53,1:GX%=57A:GY%=480:MOVE 576,480:PRINTG$:VDU
4:S%=S%+200:PRINTTAB(0,1);S%:VDU5:ENDPROC
  360 IF D%=1 AND K%=1 SOUND 2,4,53,1:HX%=704:HY%=
480:MOVE 704,480:PRINTG$:VDU4:S%=S%+200:PRINTTAB(0
,1);S%:VDU5:ENDPROC
  370 ENDPROC
  380 DEF PROCGHOULS
  390 IF K%=1 MOVE GX%,GY%:PRINTG$:MOVE HX%,HY%:PR
INTG$:MOVE GX%,GY%:PRINTG$:MOVE HX%,HY%:PRINTG$:EN
DPROC
  400 IF G%=1 G%=2:GOTO 470 ELSE G%=1
  410 MOVE GX%,GY%:PRINTG$
  420 IF X%>GX% AND POINT(GX%+64,GY%)<>3 GX%=GX%+6
4 ELSE IF X%<GX% AND POINT(GX%-64,GY%)<>3 GX%=GX%-
```

```
&4
  430 IF YX>GY% AND POINT(GXX,GYX+32)<>3 GYX=GYX+3
2 ELSE IF YX<GY% AND POINT(GXX,GYX-32)<>3 GYX=GYX-
32
  440 MOVE GXX,GYX
  450 PRINTG$
  460 ENDPROC
  470 MOVE HXX,HYX:PRINTH$
  480 IF XX>HXX AND POINT(HXX+64,HYX)<>3 HXX=HXX+6
4 ELSE IF XX<HXX AND POINT(HXX-64,HYX)<>3 HXX=HXX-
64
  490 IF YX>HYX AND POINT(HXX,HYX+32)<>3 HYX=HYX+3
2 ELSE IF YX<HYX AND POINT(HXX,HYX-32)<>3 HYX=HYX-
32
  500 MOVE HXX,HYX
  510 PRINTG$
  520 ENDPROC
  530 DEF PROCSCREEN
  540 VDU19,3,LX MOD4+4;0;5
  550 RESTORE 600
  560 FOR ROW=1 TO 29:READ Data$
  570 FOR COL=0 TO 19:Char$=MID$(Data$,COL+1,1)
  580 MOVE COL*64,ROW*32:IF Char$="W" GCOL 0,3:VDU
234 ELSE IF Char$="." GCOL 0,2:VDU253 ELSE IF Char
$="*" GCOL 0,1:VDU252 ELSE GCOL 0,3:VDU 251
  590 NEXT,
  600 DATA"WWWWWWWWWWWWWWWWWWW"
  610 DATA"W8................8W"
  620 DATA"W.WWWWWWWWWWWWWWW.W"
  630 DATA"W.W.......W......W.W"
  640 DATA"W. WWWWW...WWWW...W"
  650 DATA"W.W.......W......W.W"
  660 DATA"W...WWWWWWWWWWW...W"
  670 DATA"WWW....W....W....WWW"
  680 DATA"W...NW...NW...NW...W"
  690 DATA"W.W.NW.W.NW.W.NW.W.W"
  700 DATA"W.................W"
  710 DATA"W.WWWWW.WWWWW.WWWW.W"
  720 DATA"W W.......W......W.W"
  730 DATA"W.W.WWWWXXXWWWW.W.W"
  740 DATA"W.......WXXXW......W"
  750 DATA"W.W.WWWWXXXWWWW.W.W"
  760 DATA"W.W.......W......W.W"
  770 DATA"W.WWWWW.WWWWW.WWWW.W"
  780 DATA"W.................W"
  790 DATA"W.W.NW.W.NW.W.NW.W.W"
  800 DATA"W...NW...NW...NW...W"
  810 DATA"WWW....W....W....WWW"
  820 DATA"W...WWWWWWWWWWW...W"
  830 DATA"W.W.......W......W.W"
  840 DATA"W...WWWWW...WWWW...W"
  850 DATA"W.W.......W......W.W"
  860 DATA"W.WWWWWWWWWWWWWWW.W"
  870 DATA"W8................8W"
  880 DATA"WWWWWWWWWWWWWWWWWWW"
  890 XX=640:YY=160:GXX=64:GYX=480:HXX=1152:HYX=96
0:PX=0:KX=0:DX=0:MOVE XX,YX:PRINTM$:MOVE GXX,GYX:P
RINTG$:MOVE HXX,HYX:PRINTG$
  900 VDU4:COLOUR 1:PRINTTAB(0,0);"SCORE    HIGH
LIVES":COLOUR 2:PRINTTAB(0,1);SX;TAB(8,1);HX(1);TA
B(15,1);STR$N$0(LIX-1,CHR$234):VDU5
  910 VDU23;8202;0;0;0;
  920 *FX9,5
  930 *FX10,5
  940 ENDPROC
  950 DEF PROCINIT
  960 VDU 23,255,255,255,255,255,255,255,255,255,2
3,254,253,129,129,129,129,129,129,255,23,253,0,0,0
,18,18,0,0,0,23,252,0,18,36,124,36,18,0,0,23,224,5
8,124,214,254,186,198,124,56,23,228,30,63,53,43,99
,128,252,204
  970 VDU 23,251,85,255,85,80,80,255,80,80
  980 DIM N$(5),N6(5):FOR A=1 TO 5:N$(A)=1500:N6(A
)="Gray&ge":NEXT
  990 N$=CHR$18+CHR$0+CHR$2+CHR$224:E0=CHR$18+CHR$
0+CHR$0+CHR$255:E6=CHR$18+CHR$3+CHR$1+CHR$225
 1000 ENVELOPE1,1,40,-10,-10,1,1,1,120,-3,-3,-3,12
0,30:ENVELOPE 2,1,0,0,0,1,1,1,120,-1,-1,-1,120,80:
ENVELOPE 3,1,16,-16,16,5,5,5,120,-2,-2,-2,120,30:E
NVELOPE4,1,4,-4,4,10,10,10,120,-1,-2,-1,120,0
 1010 VDU134,157:PRINT
 1020 FOR A=1 TO 2:VDU134,157,141,132:PRINTTAB(4);
"M A Z E   M A U L E R":NEXT
 1030 VDU134,157:PRINT
 1040 PRINTTAB(12);CHR$129;"by Stephen Gray"
 1050 PRINT'"  In this version of an old favourite
,  guide the maze eater around the screen,gobblin
g the dots. Avoid the randomly  moving ghouls, un
less you have swallowed red Pill, then you can go
bble the"
 1060 PRINT"ghouls. Eat all the dots to finish the
 game."
 1070 PRINT'CHR$130;"CONTROLS"''CHR$131;"LEFT  Z
RIGHT  X"'CHR$131;"  UP  ;   DOWN  /"
 1080 PRINT'CHR$134;"Press SPACE to start";
 1090 A=GET:IF A<>32 GOTO 1090
 1100 ENDPROC
 1110 DEF PROCLEVEL
 1120 LX=LX+1
 1130 DELX=DELX-25
 1140 FDAR=1 TO 2000:NEXT
 1150 RESTORE 1160
 1160 FOR A=1 TO 9:READ F,H:SOUND 1,2,F,H:NEXT
 1170 FOR A=1 TO 5000:NEXT
 1180 DATA 33,6,21,3,33,6,21,3,33,3,21,3,33,6,49,6
,33,6
 1190 ENDPROC
 1200 DEF PROCDEAD
 1210 FOR A=1 TO 2000:NEXT
 1220 LIX=LIX-1
 1230 MOVE XX,YX:SCOLO,1:VDU225
 1240 FOR A=53 TO 5 STEP-1
 1250 SOUND 1,-15,A,1:NEXT
 1260 FOR A=1 TO 500:NEXT
 1270 SOUND 0,-15,2,10
 1280 FOR A=1 TO 2000:NEXT
 1290 ENDPROC
 1300 DEF PROCHIGH
 1310 IF SX<=HX(5) GOTO 1470
 1320 VX=0
 1330 REPEAT:VX=VX+1:UNTIL SX>HX(VX)
 1340 FOR N=5 TO VX+1 STEP-1:N$(N)=N$(N-1):HX(N)=N
X(N-1):NEXT
 1350 N$(VX)=SX:N6(VX)=""
 1360 PRINT'''FOR A=1 TO 2:VDU129,141:PRINT"YOU A
RE IN THE FABULOUS FIVE ! ! ! !":NEXT
 1370 PRINT''''CHR$134" ENTER YOUR NAME''''CHR$1
31;"1";
 1380 *FX15,1
 1390 A=GET
 1400 IF A=13 GOTO 1420
 1410 IF A=127 AND LEN N$(VX)<0 VDU7:GOTO 1390
 1420 IF A=127 N$(VX)=LEFT$(N$(VX),LEN N$(VX)-1):VD
U8:GOTO 1390
 1430 IF LEN N$(VX)>15 VDU7:GOTO 1390
 1440 N$(VX)=N$(VX)+CHR$(A)
 1450 VDU4
 1460 GOTO 1390
 1470 ELB:VDU131,157:PRINT:FOR A=1 TO 2:VDU131,157
,141,129:PRINTTAB(4);"M A Z E   M A U L E R":NEXT:
VDU131,157:PRINT
 1480 VDU 131,157,132:PRINTTAB(10);"by Stephen Gre
y"
 1490 FOR A=1 TO 5:PRINT';CHR$141;A;,N$(A)"   ";N
$(A)'CHR$141;A;,N6(A);"   ";N$(A):NEXT
 1500 *FX15,1
 1510 PRINT''CHR$134;"Press SPACE for a new game";
 1520 A=GET:IF A<>32 GOTO 1520
 1530 ENDPROC
 1540 MODE 7:PROCHIGH:GOTO 100
```



PERIPHERAL

Jon Revix has been discovering what Computer Concept's Speech ROM can do

Speech ROM

Like many other people I rushed out to buy the BBC speech system as soon as it was released. Also like many other people I grew bored with it within the first week. It may have had a quality of speech which was better than any other device around but it didn't have much to say for itself.

The system provides the BBC with a massive 165-word vocabulary, and with a little ingenuity some of these words can actually be strung together to produce sentences! With the arrival of Computer Concept's Speech ROM it is time to blow the cobwebs from your Acorn Speech System and discover what a real speech synthesiser can sound like.

The Speech ROM frees you from these vocabulary constraints, allowing the construction of words from phonemes. Phonemes are the sounds from which we construct our words when we say them.

Before the speech ROM can be used it must first be enabled, by typing *SPON and pressing the break key. As a matter of convenience the Speech ROM defaults to its disabled state when the computer is switched on, or the user presses Ctrl plus Break. This is because the ROM requires two pages of memory (512 bytes) for its own use. This memory is stolen by raising the value of PAGE on a disc-based machine the new value of PAGE is therefore &1B00, or &1C00 should you be using an Aries B20 RAM board with which the speech ROM is compatible.

*UTTER is the command via which you are able to input a sequence of phonemes. The command takes the format *UTTER (tone) (phoneme) (phoneme) . . . . The value of tone specifies the way in which the word is to be spoken, e.g. forcefully, questioningly etc. Having decided upon a value for tone you then merely enter the sequence of phonemes that are necessary to produce the required word. The structure of the UTTER command lends itself very nicely for use with the OSCLI statement (Basic 2) e.g.

```
10 a$ = * <1> K UH N P V =OH T UH"
20 OSCLI "UTTER" + a$
```

In this way vocal responses can be read into variables from data statements and then output via the UTTER command.

Not content with providing the BBC with fluent speech, the ROM also provides the command *SING. The *SING command takes the following format *SING (pitch) (note) (phoneme) . . . . where pitch is represented by a whole note i.e. no sharps or flats, and is entered as a letter C top B. Note specifies the length of the note, this can be anything from a semiquaver to a semibreve, and finally you supply the phoneme or phonemes which are to be sung.

Other commands which are available are *SYNC which halts the programs execution until the computer has finished speaking, and finally *VOICE which allows the user the choice of five voices of differing pitch.

The Computer Concepts Speech ROM provides BBC computer users with an opportunity to get some use from that white elephant that is otherwise known as the Acorn Speech System.

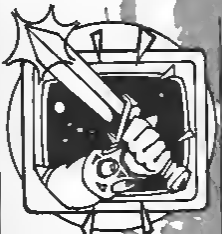
Price: £33.95

Manufacturer: Computer Concepts

Address. Gaddesden Pl, Hemel Hempstead, Herts HP2 6EX

BBC

VENTURES



Peter Swaasey has now recovered from the dreaded lurgy and is back with a bounce

Hello again and welcome to Ventures, HCW's regular column dealing with, as the name implies, adventure games, plus the odd arcventure (arcade adventure) too. My excuse for the delay is I've been down with the real life equivalent of the dreaded lurgy. I'm sure it was some irate Duckworth programmer, desperate for revenge after my harsh comments a few weeks back, who drugged my tea... hang on, I don't drink tea!

Anyway, while I've been on my death bed, probably in a frantic attempt to avoid my critical eye, the software houses have been rushing out products, causing something of a backlog on my desk. Still, late reviews are better than no reviews at all, aren't they?

See if you can spot the link between this week's reviews, Key of Hope from Games Workshop, and Confidential from Radar Games, other than the fact they both have e's in them. All will be revealed.

Reviews

I knew it was going to be a tough assignment. I pulled on my Columbo style mac and examined the package they had pushed through my door that morning. It was a big one. Inside was a folder, containing a big orange map, a note book, and the cassette itself. My job was to assume the name Craig Adams, and investigate the disappearance of prominent local businessman Mr Richards. "Be clever, resourceful, play to win, to solve the task which lies within" rhymed the game at the start.

Confidential is a detective adventure, a rarely successful breed. Only Sherlock Holmes has come anywhere near, and even that was marred by program and punctuation bugs. Would this be an exception?

The game starts promisingly enough, in Craig Adam's Detective Agency. Description is above average. "Shadows from the trees in the park opposite play upon the Victorian styled desk and chair. The passing of traffic outside rattles a grimy casement window", and to my delight, they program recognised the words chair and desk (although not window... can't expect everything I suppose!)

On finding the correct key I left the building and drove off in my customised green sports car. I was heading for the home of the distraught Mrs Richards, who lives in Dale End. I followed the map, and although I discovered that it was some what out of peoportion, it was easy enough to find the house, and I was soon knocking on the door.

Once inside, I typed INTERVIEW MRS RICHARDS, upon which she told me her sorry tale. Then I typed the same thing — and she responded in exactly the same way. I sighed — no Sherlock Holmes this.

This is a prime example of the game's basic fault: it lacks intelligence. Unfortunately, the reason is due to that wonderful utility, The Quill. I see a lot of Quilled games, and many are let down in the same areas. Firstly, the white on blue text — not very appealing to the seasoned gamer. Then there are the Quilled messages, like "Have a nice day" and "I'm ready for your instructions", and simple graphics made of UDGs. Other annoying features are REDESCRIBE without LDOK, although Confidential does not do this, and the lack of a TAKE ALL command. But the worst thing is the unfriendly vocabulary.

At one point in Confidential, I found "a reel of cable and a sack of gravel". The program accepted GET REEL but not GET CABLE. Huh! I thought — I've worked this out. So I typed GET SACK, only to find the correct words were GET GRAVEL. If the game is going to be picky, it can at least keep to a set of rules. The above example is just sloppy programming.

The good thing is many of the bugs could be avoided. Colours can be changed at the press of a button, and synonyms added, even in the original Quill. Using version C, as all professional games should, the silly messages can be redefined, a TAKE ALL command added, and memory used more efficiently. If Quilled games are going to be marketed, as I believe many should, be, they must be properly edited as described above. Otherwise, they all turn out the same, to the detriment of reviewer and Joe Public.

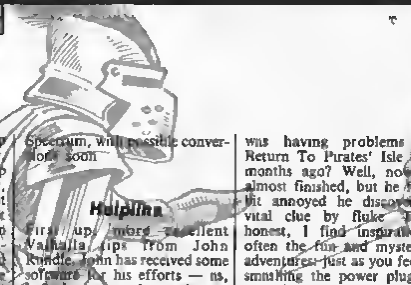
That said, Confidential does have some redeeming features. The puzzles are entertaining, and EXAMINE is very responsive. EXAMINE KEY will tell you that it is small and chrome, whilst EXAMINE MRS RICHARDS responds "She slaps your face!" There is a nice variety of characters, although they are rather cardboard. The complete package, including map and competition is not exactly original, but well implemented. On the whole, good fun, reasonably priced, and a rating of ***. The game is currently available for the Spectrum costing £6.95, and is being converted for the C64 and Amstrad. I wish Radar Games, a new company, the best of luck — and hope they use version C in the future.

Another game which uses The Quill (there's the link for those who are still puzzling) is Key of Hope. Here, however, use is so good that it is almost unrecognisable, and seeing as I could find no mention of it on the box, I expect most people will be fooled. This is the sequel to the highly acclaimed Tower of Despair, and the scenario is probably best explained in the words of Games Workshop: "The White Goddess of Truth is waging a secret war against the hideous power of the Demonlord Malnor, whose essence has fused with that of his age-old prison, giving him horrendous new abilities, his new magics are slowly transforming the face of the globe, and Aelandor lies ravaged, before him. She has summoned you, Warrior-Mage of Castle Argent and Malnor's nemesis, to her aid."

You thus arrive in the land of Aelandor, in an unfamiliar body, and have to collect all the pieces of the Key of Hope before Malnor takes over the world. Hardly the most original of scenarios.

Once loaded, a rather average picture of a horse in front of a ruined castle appears. "The ruins of Castle Argent lie all around. They are completely overgrown. Confusion sweeps through you as you attempt to stand. Your mass seems strangely distributed in your new body. Also visible a snow-white horse, plain ring and glittering sunsteel sword." The Quill messages like "What now?" have been totally erased, and the character set redefined. Each description starts with a specially designed, monastry style capital.

Wandering westwards, you find open country, soothing grass-



land, rolling downs, a dried-up stream, more open country, more rolling downs, a dried up stream, more open country, more rolling down. This is not a normal adventure; in fact here the emphasis is more on role-playing fantasy exploration, rather than varied location, and is I suppose more realistic. An accurate map is thus difficult to draw; instead, just wander west and you'll find the sea cliff, go south for the desert, and so on. This does not mean the game is dull or easy, indeed it is one of the hardest I have ever reviewed. There are plenty of puzzles, even if they are distributed over a rather wide area. For example a glowing hot talisman that can't be picked up bare handed, or a sinister stone circle.

I can't, however, say I really enjoyed this game. I feel it will not appeal to the mainstream adventurer — more to the role-playing fan. It is, nonetheless, a competent program, and an excellent example of how to use The Quill. My rating is, again, keen. It costs £7.95 for the Spectrum, with possible conversions soon.

Hulpline

First up, more excellent Valhalla tips from John Rundle. John has received some software for his efforts — as, indeed, *you* can by sending in the most interesting letter each fortnight. I'll pick the last time searching for Skarnir. You should be in a cave in hell. Give Ofnir the sword, go east twice, get Ofnir back, but drop your helmet. East again, and Skarnir is in the chest.

Skalir: Go to Skepto's Hall. To go north, you must not be carrying Draupnir. Then go east from Trouble, you need wine but no ring — and don't forget to retrieve Draupnir. Jump from this cave, and go SE from the key frame. To go north, you need a sword but no key. Skalir is in — guess what? — a locked chest. The next quest is Felstrong, but I'll leave you to puzzle over that a bit longer.

Remember Mark McGuire was having problems with Return To Pirates' Isle a few months ago? Well, now he's almost finished, but he feels a bit annoyed he discovered a vital clue by fluke. To be honest, I find inspiration is often the fun and mystery of adventures: just as you feel like smashing the power plug into several smaller pieces, you try something totally ridiculous and it works! I can't really comment on the game, since Adventure International won't be releasing it until "some time later this year". TI-99/4A owners are in the lucky position of being the sole British players — Texas produced a run of cartridges just before they pulled out of the market.

Mark also asks if the Quest probe series is being released on the Texas. The answer, unfortunately, is no the only way Scott Adam's adventures can be fitted into the Texas is to make a cartridge, and there are too few Texas owners to justify this being done. Perhaps if you all write to Adventure International.

Talking of Questprobe, The Hulk is still stumping many players. Now at last, it can be revealed how to avoid the ants. You need to close your eyes, hold your nose, and plug your ears. They won't be able to attack you then, and you can pick them up and take them to — well, that's for you to discover. That should help Mr P J Phowarski, who also asks what to do with Dr Strange. If you keep turning back to Bruce Banner, he will tell you to EXAMINE BASEBOARD. If you do this, and remedy the situation with some plugging substance, he will tell you how to be a *strong* Hulk. If you still can't take the wax, examine that second dome.

Wally Hint should be completing his epic adventure by now. At the time of writing, 20 people had rung Mikro-Gen — but the number has probably trebled since then. Anyway, a bumper Wally hint guide next time, along with a review of Dummy Run, the latest Mikro-Gen adventure, and more. Until then, happy venturing!

VIC-20 GAME

VAMPIRE

In Alan Brack's program for the unexpanded VIC-20 you have to avoid the hostile wolves to get back to your vampire's refuge

How it works

30-50	sets up UDGs
60-80	sets up main screen
100-160	main program loop
400-410	fire silver bullet
600-615	succeeds routine
900-950	end routine
970-981	music

Variables

M,M1	vampire
W	number of wolves
D,D1	coffin
SC	lives
SD	skill level
SF	points
C	colour
V	volume
S,S1	sound
SC	time limit

RICHARD ALLEN 1984

Listing 1

```
 5 PRINT"****BY ALAN BRACK****"
 10 PRINT"▼":POKE36878,31
 20 PRINT"▒▒*******VAMPIRE********"
 22 PRINT"▒YOU ARE THE VAMPIRE - YOU MUST BE IN YOUR   COFFIN BY DAYBREAK..."
 24 PRINT"▒▒BEWARE OF THE WOLVES  WHO WILL SLOW YOU DOWN
 26 PRINT"▒▒IF TOO MANY GET IN THEWAY YOU CAN SHOOT THEMBUT YOU LOSE POINTS
 27 PRINT"▒EACH TIME YOU FIRE..."
 30 PRINT"▒▒DIFFICULTY LEVEL WILL INCREASE EACH TIME YOUGET TO YOUR COFFIN..."
 32 PRINT"▒▒DAYBREAK IS 20SECONDS   AWAY SO HURRY!        ▒▒▒HIT SPACE TO CONTINUE"
 38 POKE198,0
 40 GETA$:IFA$<>" "THEN40
 50 PRINT"▼":POKE36878,29
 55 PRINT"▒▒▒*******VAMPIRE********"
 60 PRINT"▒▒▒KEYS=Z,X,B,N,M=FIRE"
 62 PRINT"▒▒▒▒▒OR USE JOYSTICK"
 65 PRINT"▒▒▒PRESS SHIFT & RUN/STOP TO LOAD MAIN PROG..."
 70 NEW
```

Listing 2

```
 30 POKE52,28:POKE56,28:FORI=7424TO7431:POKEI,0:NEXTI
 31 FORI=7168TO7231:READA
 32 POKEI,A:NEXTI
 33 DATA56,56,124,124,254,254,254,254
 34 DATA124,124,124,124,36,36,36,36
 35 DATA63,118,127,187,127,28,28,28
 36 DATA195,195,58,36,36,34,34,51,56,66,66,66,56,16,124,186
 37 DATA165,165,36,36,36,68,68,182
 38 DATA251,251,251,0,223,223,223,6
 39 DATA8,26,62,62,62,62,62,127
 50 GO=1:SE=3:W=49:SF=0
 60 PRINT"▼":POKE36876,0:POKE36866,255
 61 FORG=1TOWR=INT(RND(1)*440):U=INT(RND(1)*4)+3:POKE7724+R,2:POKE36444+R,U:NEXT
 62 POKE8121,32:POKE8143,32
 65 MI=8143:M=8121:J=0:C=30720:V=36878:S=36874:S1=36877:SC=0:Y=0:X=0:A=0:A1=0:A2
=0
 67 A3=0:A4=0:A5=0:O=7661:O1=8603:O=5
 68 POKE36865+A3,4:POKE36814+A4,4:POKE36764+A5,4
 69 POKE36422+A,4:POKE36664+A,4:POKE36422+A1,4:POKE36443+A1,4:POKE36882+A2,4
 70 POKE7722+A,6:POKE8164+A,6:POKE7762+A1,6:POKE7723+A1,6
 72 POKE8172+A2,6:POKE7885+A3,6:POKE7894+A4,6:POKE8044+A5,6
 73 A=A+1:A1=A1+22:A2=A2-22:A3=A3+1:A4=A4+22:A5=A5+1
 74 IFA=>22THEN90
 75 IFA2=<-266THENA2=A2+22
 76 IFA3=>0THENA3=A3-1
 77 IFA4=>176THENA4=A4-22
 78 IFA5=>4THENA5=A5-1
 79 POKE7834,7:POKE8867,7:POKE8157,7:POKE8167,7:POKE8136,7:POKE7854+C,1:POKE8067+
C,1
 80 POKE8157+C,1:POKE8187+C,1:POKE8139+C,1:GOTO68
 85 POKE36878,247:POKE61,145
 90 Y=0:POKE36878,INT(RND(1)*6)+8:POKE6,188:POKE61,150:FORT=1TO50:NEXT:POKEV,15
 100 POKE37137,0:POKE37134,127:J1=PEEK(37137):J2=PEEK(37152):H4=PEEK(197)
 101 POKEM+C+J,1:POKEM1+C+J,1:POKEM+J,4:POKEM1+J,0:O=5
 102 PRINT"▒▒▒"SC:SC=SC-1:PRINT"▒▒▒▒▒▒LIVES"SE:PRINT"▒▒▒▒▒▒▒▒▒▒▒▒▒▒LEVEL"SO
 103 POKE7683,6:POKE7684,6:POKE7682,6:POKE7781,6:POKE7683+C,4:POKE7684+C,4
 104 POKE7682+C,4:POKE7781+C,4
 105 IFSC=<10THENPOKE7682,32:IFSC=0THEN220
 108 IF(J2AND128)=0ORH4=28THENGOSUB380:J=J+1:X=+1:GOTO117
 111 IF(J1AND16)=0ORH4=35THENGOSUB380:J=J-1:X=-1:GOTO117
 115 IF(J1AND4)=0ORH4=33THENGOSUB380:J=J-22:X=-22:GOTO117
 116 IF(J1AND8)=0ORH4=26THENGOSUB380:J=J+22:X=+22:GOTO117
 117 POKES,0:POKES1,0:POKE36876,0
```

```
119 IFPEEK(M1+J)=6ORPEEK(M1+J)=2ORPEEK(M1+J)=7THENJ=J-X:GOTO90
120 IFPEEK(M+J)=6ORPEEK(M+J)=2ORPEEK(M+J)=7THENJ=J-X:GOTO90
121 IF(J1AND32)=0ORH4=36THEN405
122 IFPEEK(M+J)=1ORPEEK(M+J)=5ORPEEK(M1+J)=9THEN600
155 POKEM+C+J,1:POKEM1+C+J,1:POKEM+J,4:POKEM1+J,5:POKED,5:POKED1,1:POKED+C,2:POK
ED1+C,2
160 GOTO100
300 POKEM+J,32:POKEM1+J,32:POKES1,200:D=3:POKES1,0:SF=SF+5:RETURN:END
400 POKEM+J+Y,236:FORT=1TO5:NEXT:POKEM+J+Y,32:Y=Y+X
402 IFPEEK(M+J+Y)=2THENPOKEM+J+Y,32:GOTO95
405 IFPEEK(M+J+Y)=0ORPEEK(M+J+Y)=7THEN90
407 POKEM+J,4:POKEM1+J,5:POKEM+C+J,1:POKEM1+C+J,1:SF=SF-5
408 IFY=0THEN90
410 GOTO400
600 POKE36879,236:POKED,4:POKED1,3
610 FORT=1TO700:NEXT:SO=SO+1:W=W+10:SF=SF+1000:GOTO60
615 END
800 SE=SE-1:POKES,0:POKES1,5:POKE36876,5:POKE36879,31:FORT=1TO700:NEXT
805 IFSE=0THEN600
810 GOTO60
900 GOSUB970:PRINT"J":POKE36879,10:POKE36869,240:POKES,0:POKES1,0:POKE36876,0
910 PRINT"[redacted]YOU MANAGED TO REACH                                    SKILL LEVEL"SO
915 PRINT"[redacted]POINTS="SF
920 PRINT"[redacted]ANOTHER GO?...Y/N."
925 POKE198,0
930 GETA$:IFA$="Y"THENRUN
940 IFA$="N"THENSTOP
950 GOTO930:END
970 S=36874:READP
971 IFP=-1THEN973
972 READG:POKES,P:FORF=1TOG:NEXTF:POKES,0:FORF=1TO20:NEXTF:GOTO970
973 POKES1,0:RETURN
974 END
988 DATA185,200,195,158,195,80,185,200,203,150,201,80
981 DATA201,150,185,50,195,150,195,80,195,300,-1,-1
8157 +C,1:POKE8107+C,1
```

CHARACTER DESIGNER

This useful little program from Stephen Gray takes the hard work out of character design for you

Are you tired of adding up all those 128s, 64s, 32s, etc., when designing your characters? If so, then this program is for you.

First, type in the ASCII code of the character to be defined, and the fore/background colours. Then you are given a mode 2 8x8 grid to design the character in.

Use F for pixel on, SPACE for pixel off, the cursors to move, and DELETE as normal. As you make alterations the finished character is shown to the right of the grid.

When satisfied, press Return and you will be told exactly what you need to type, in your programs or otherwise, to define that character.

Variables

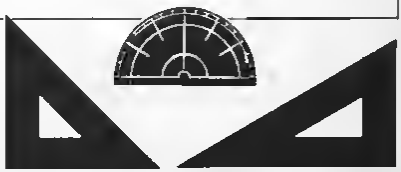
Fore foreground colour
Back background colour
Char ASCII code of character
P% position of cursor on grid
X%,Y% actual co-ordinates of cursor
Pos(64) pixel on or off array
Para(8) parameters needed to define character
Value decimal value of each bit (pixel)

How it works

80-130 initialises and calls subroutines
140-360 main loop subroutine
370-460 sets up colurs and ASCII code
470-560 prints parameter needed and finished character
570-640 works out parameters and defines character
650-690 initialisation

```
 10 REM ************************
 20 REM * Character designer *
 30 REM * by Stephen Gray    *
 40 REM * BBC Model B        *
 50 REM * For H.C.W.         *
 60 REM * Grayface           *
 70 REM ************************
 80 ON ERROR RUN
 90 MODE7:PROCINIT
100 MODE7:PROCSET_UP
110 MODE2:PROCIN
120 PROCSHOW
130 RUN
140 DEF PROCIN:PROCWORK:COLOUR Fore:COLOUR Back+128:CLS
150 PRINT'"CHARACTER DESIGNER"''"CHARACTER ";Char
```

```
  160 PRINT'"Press F for pixel on"'"SPACE for pixel off"''"Use cursors and"'"DEL
ETE as normal"''"Press RETURN when"'"finished"
  170 PRINT
  180 FOR A=1 TO 9:PRINTTAB(2);STRING$(8,CHR$254):NEXT
  190 VDU5:P%=1:X%=128:Y%=543:*FX4,1
  200 GCOL3,14:MOVE X%,Y%:VDU255
  210 GCOL 0,Back:MOVE 900,512:VDU255:GCOL 0,Fore:MOVE 900,512:VDU Char
  220 *FX15,1
  230 A=GET
  240 IF A=136 AND P%>1 P%=P%-1
  250 IF A=137 AND P%<64 P%=P%+1
  260 IF A=138 AND P%<57 P%=P%+8
  270 IF A=139 AND P%>8 P%=P%-8
  280 GCOL3,14:MOVE X%,Y%:VDU255
  290 X%=128+(P%-1) MOD 8*64:Y%=543-(P%-1) DIV8*32
  300 IF A=70 Pos(P%)=1:MOVE X%,Y%:GCOL 0,Fore:VDU253:P%=P%+1:IF P%=65 P%=64
  310 IF A=32 Pos(P%)=0:MOVE X%,Y%:GCOL 0,Back:VDU255,8:GCOL 0,Fore:VDU254:P%=P%
+1:IF P%=65 P%=64
  320 IF A=127 Pos(P%)=0:MOVE X%,Y%:GCOL 0,Back:VDU255,8:GCOL 0,Fore:VDU254:P%=P
%-1:IF P%=0 P%=1
  330 IF A=70 OR A=32 OR A=127 PROCWORK
  340 X%=128+(P%-1) MOD 8*64:Y%=543-(P%-1) DIV8*32
  350 IF A=13 ENDPROC
  360 GOTO 200
  370 DEF PROCSET_UP
  380 PRINT'"CHARACTER DESIGNER"''"by Stephen Gray"
  390 INPUT'"Character number (224-252) ",Char
  400 IF Char>252 OR Char<224 THEN 390
  410 INPUT'"Foreground colour (0-15) ",Fore
  420 IF Fore>15 OR Fore<0 THEN 410
  430 INPUT'"Background colour (0-15) ",Back
  440 IF Back>15 OR Back<0 THEN 430
  450 IF Fore=Back PRINT'"Same colour - you won't see anything '":GOTO 410
  460 ENDPROC
  470 DEF PROCSHOW
  480 GCOL 0,Fore:GCOL 0,Back+128:CLS:PRINT'"CHARACTER DESIGNER"'"CHARACTER ";C
har''"Type the following"''"VDU 23,";Char;
  490 PROCWORK
  500 FOR A=1 TO 8:PRINT",";Para(A);:NEXT
  510 PRINT'''
  520 FOR A=1 TO 9:PRINTCHR$(Char);" ";:NEXT
  530 *FX15
  540 PRINT'''"Press RETURN"'"to restart"
  550 A=GET:IF A<>13 GOTO 550
  560 ENDPROC
  570 DEF PROCWORK
  580 FOR Row=0 TO 7
  590 Para(Row+1)=0
  600 FOR Col=1 TO 8
  610 Para(Row+1)=Para(Row+1)+Pos(Row*8+Col)*Value(Col)
  620 NEXT,
  630 VDU23,Char,Para(1),Para(2),Para(3),Para(4),Para(5),Para(6),Para(7),Para(8)
  640 ENDPROC
  650 DEF PROCINIT:DIM Value(8),Pos(64),Para(8)
  660 RESTORE 670:FOR A=1 TO 8:READ B:Value(A)=B:NEXT
  670 DATA 128,64,32,16,8,4,2,1
  680 VDU 23,254,255,129,129,129,129,129,129,129,255,23,255,255,255,255,255,255,
255,255,255,23,253,0,0,60,60,60,60,0,0
  690 ENDPROC
```



C16 GAME

LOGIX

Here's on old game adapted for a new machine! You have to be a mastermind to crack this one

Test your powers of logical thought with this game for your C16

The program chooses four numbers from the range one to seven and you have just ten attempts to guess the numbers

The program marks your attempts with a white cross for a correct number in the wrong sequence and a black cross for a correct number in the right position

If you make a mistake whilst typing in your guess it can be cancelled by simply pressing the space bar

If anyone would like to provide us with a routine that allows the computer to guess your sequence, please do so!

Main Variables

N1,N2,N3,N4 numbers chosen by the machine
E,F G,H numbers chosen by the user
P1 screen display position
P4 number of attempts
W number of white crosses to be shown
B number of black crosses to be shown
K checks when space bar is pressed

How it works

100-190 set up screen, print instructions
200-290 choose numbers
300-330 start the game
335-530 receive and display the user's choice
540-620 decide which numbers are correct
630-710 display white or black crosses

Subroutines

720-790 receive a number from the user
770-850 winning routine
860-920 losing routine
930-950 display numbers chosen by the machine

```
10 PRINT"J":VOL8
20 COLOR4,8,7:COLOR0,8,9:COLOR1,2
30 CHAR1,10,1,"H O W  T O  P L A Y"
40 CHAR1,2,5,"THE MACHINE WILL SELECT 4 DIFFERENT"
50 CHAR1,2,6,"NUMBERS BETWEEN 1 AND 7 IN A RANDOM"
60 CHAR1,2,7,"ORDER."
70 CHAR1,2,9,"YOU ARE ALLOWED UP TO 10 ATTEMPTS TO"
80 CHAR1,2,10,"TRY AND GUESS WHAT THE NUMBERS ARE."
90 CHAR1,2,12,"A WHITE CROSS WILL BE SHOWN FOR A"
100 CHAR1,2,13,"RIGHT NUMBER IN THE WRONG ORDER AND"
110 CHAR1,2,14,"A BLACK CROSS FOR A RIGHT NUMBER"
120 CHAR1,2,15,"IN THE RIGHT ORDER."
130 CHAR1,2,17,"YOU CAN CANCEL YOUR ATTEMPT AT ANY"
140 CHAR1,2,18,"TIME BY PRESSING THE SPACE BAR."
150 CHAR1,8,22,"PRESS ANY KEY TO PLAY"
160 FOR A=880 TO 900 STEP 20
170 SOUND2,A,10:SOUND1,A-400,10:NEXT
180 SOUND2,400,20
190 GETKEYA$:PRINT"J"
200 A=INT(RND(1)*7+1):IF(=A
210 A=INT(RND(1)*7+1)
220 IF A=N1 THEN 210
230 N2=A
240 A=INT(RND(1)*7+1)
250 IF A=N1 OR A=N2 THEN 240
260 N3=A
270 A=INT(RND(1)*7+1)
280 IF A=N1 OR A=N2 OR A=N3 THEN 270
290 N4=A
300 POKE173,186:POKE178,180
310 POKE179,150:POKE180,180
320 P1=3873:P4=0
330 GOSUB390
340 IF K=1 THEN GOSUB 900:GOTO330
350 IFB=4THENGOSUB770:PRINT"J":GOTO200
360 P1=P1-80:P4=P4+1
370 IF P4<10 THEN 330
380 GOSUB850:PRINT"J":GOTO200
390 GOSUB 720
400 IF K=1 THEN RETURN
410 POKEP1,ZZ+48:E=ZZ:SOUND1,800,5
420 GOSUB 720
430 IFK=1THENRETURN
440 IF ZZ=E THEN 420
450 POKEP1+3,ZZ+48:F=ZZ:SOUND1,800,5
460 GOSUB 720
470 IFK=1THENRETURN
480 IF ZZ=E OR ZZ=F THEN 490
490 POKEP1+6,ZZ+48:G=ZZ:SOUND1,800,5
500 GOSUB 720
510 IFK=1THENRETURN
520 IF ZZ=E OR ZZ=F OR ZZ=G THEN 500
530 POKEP1+9,ZZ+48:H=ZZ:SOUND1,800,5
540 W=0:B=0
550 IFE=N1ORE=N2ORE=N3ORE=N4THENW=W+1
560 IFF=N1ORF=N2ORF=N3ORF=N4THENW=W+1
570 IFG=N1ORG=N2ORG=N3ORG=N4THENW=W+1
580 IFH=N1ORH=N2ORH=N3ORH=N4THENW=W+1
590 IFE=N1THENW=W-1:B=B+1
600 IFF=N2THENW=W-1:B=B+1
610 IFG=N3THENW=W-1:B=B+1
620 IFH=N4THENW=W-1:B=B+1
630 B2=B
640 P2=(P3-39)*3+15:IFB=0THEN680
650 POKEP1-P2,8:POKEP1-P2,24
660 B=B-1:P2=P2-3:P3=P3-3
670 IFB>0THEN650
680 IFW=0THENRETURN
690 POKEP1-P3,24:W=W-1:P3=P3-3
700 IFW>0THEN690
710 RETURN
720 GETX$:IFX$=""THEN720
730 IFX$=" "THENK=1:RETURN
740 ZZ=VAL(X$)
750 IFZZ<1OR22>7THEN720
760 K=0:RETURN
770 PRINT"■ W E L L  D O N E !"
780 GOSUB930
785 X=0
790 SOUND2,450,15:SOUND1,450,15
800 SOUND2,350,5 :SOUND1,250,5
810 SOUND2,250,5 :SOUND1,250,5
820 SOUND2,800,15:SOUND1,800,15
830 X=X+1:IFX<3THEN790
840 PRINTSPC(80)" PRESS ANY KEY"
850 GETKEYQ$:RETURN
860 PRINT"■ H A R D  L U C K !"
870 GOSUB930
880 FORA=250TO20STEP-25
890 SOUND1,A,10:NEXT
900 SOUND1 1,30
910 PRINTSPC(80)" PRESS ANY KEY"
920 GETKEYQ$:RETURN
930 POKE173,N1+48:POKE176,N2+48
940 POKE178,N3+48:POKE180,N4+48
950 RETURN
960 POKEP1,32 :POKEP1+3,32
970 POKEP1+6,32:POKEP1+9,32
980 RETURN
```

HIGHLIGHT UTILITY

```
1290 IF f%=46 AND t=11 THEN
1300 IF t=12 THEN ag%=1 ELS
SE IF t=14 THEN ao%=1:d$(13
 IF t=15 THEN av%=1 ELSE IF
F t=23 THEN au%=1
1310 IF t=10 THEN PRINT"HE
 HIM ALONE!!!":RETURN
1320 IF t=16 THEN aq%=1:d$(
SE IF t=24 THEN as%=1
1330 IF t=17 THEN GOTO 300
1340 IF t=18 THEN PRINT"IT
":RETURN
1350 IF t=25 THEN GOTO 270
1360 IF t=19 THEN GOTO 340
1370 IF t=20 THEN GOTO 320
```

Ron Luxton's program enables you to light up your text in vivid yellow

In spite of an increasing use of electronic aids in today's modern office the humble felt-tipped pen continues to hold its own

A version filled with transparent fluorescent ink is now available to highlight important words and sentences to make them immediately noticeable amongst slabs of grey type-script

This program has been designed on this principal — to pick out in vivid yellow any characters or keywords you choose, and it should prove especially useful during program development

When the lines have been typed in and SAVEd, the subroutine can be MERGEd on to the end of any program, occupying lines 9983 to 9999 To use, simply enter "GOTO 9983"

Characters to be sought should be entered when prompted, in exactly the form you expect to find them within the program Single-key KEYWORDS require special entry These should be preceded by "THEN", followed by the keyword, then backspace to delete the "THEN" Now enter the rest of the characters and then press "ENTER"

To find any characters in quotation marks, you should type a double quotation mark where one appears in the listing Therefore to find:

PRINT "Highlight"

you should enter

PRINT ""Highlight""

which, with the quotation marks which appear with the INPUT request, will look like this

"PRINT ""Highlight""""

before you press ENTER

This program works by examining each individual byte in each program line, starting at address 23755 When it meets a match for the first character in the string for which it is searching (in the loop from the end of line 9984 to line 9989), it jumps to the second loop (lines 9990 to 9998), where each following character (to the length of string a$) which matches each character in a$ is stored in string x$ When this string matches the length of string a$ (line 9994), it is printed out in a vivid yellow, and the control returns to the first loop to continue searching for the rest of the program lines

If, after matching the first character in string a$, the remainder of x$ does *not* match, then control returns to the point it left in the first loop and continues to print out and search

As only characters and keywords with a code higher than 31 actually appear on the screen, the program is only concerned to find such characters and keywords It will jump forward one byte when it meets codes lower than this (lines 9993 and 9988) while code 14 signifies that the next five bytes will be used to record the number before it in binary form, so the search will jump forward five bytes here (lines 9987 and 9992)

More detailed information

about the make-up of program lines can be found on page 166 of the Sinclair Spectrum manual.

After searching through all the listing, the program tells you how many times the characters you seek are used in the program, and in which lines

How it works

9983 sets up chars sought
9984 when search ends, reports number of times chars used and where
9985 formats line numbers
9986 if there is a match with first char in the string sought, goes to 9991
9986 limits printing to usable ASCII codes
9987, 9992 prevents use of binary numbers in lines (see Spectrum manual, chapter 24)
9989 moves search to next line
9990 loop to prepare string x$
9998 if each byte in PEEK m loop matches each byte in q (lines 9990 to 9995), and therefore Len x$ = w(Len a$) then the program goes to 9992 to add to counter(s), and to ensure that a line number is not counted or printed more than once even if a$ is used more than once in a line. It then goes to line 9998 to BEEP, to "highlight" chars sought and returns to loop at 9991 to continue searching for any further occurrences of chars sought

Variables

x counter for times chars used
k counter for number of lines in which they appear
w length of a$
q code of a$
j for/next loop
j for/next loop
m for/next loop
x holds val of y
a$ characters sought
x$ characters found
q$ holds current line no
z$ holds line numbers of where characters found
FNa() stat of text in first line
FNb() remainder of line
FNc() number of current line

```
9983 CLS : INPUT "Characters sought ? ";a$: LET w=
LEN a$: DIM q(w): FOR i=1 TO w: LET q(i)=CODE a$(i
): NEXT i: GO SUB 9999
9984 IF FN c()=9983 THEN  PRINT : PRINT : PRINT ;
PAPER 6; BRIGHT 1;"""";a$;"" used ";z;(" times-"
AND z>2)+(" CHR$ 8+"twice-" AND z=2)+(CHR$ 8+"once
only-" AND z=1)+(CHR$ 9+"? : No '9" AND z=0) ("In
line$ " AND k=1)+("In lines " AND k>1;z$; PAPER 7;
 INK 0: STOP
9985 PRINT TAB 0;("    " AND FN c()<10)+("  " AND F
N c()>=10 AND FN c()<100)+(" " AND FN c()>=100 AND
 FN c()<1000;FN c();: FOR j=FN a() TO FN b(): IF
PEEK j=13  THEN  GO TO 9989
9986 IF PEEK j=q(1) THEN  GO SUB 9996
9987 IF PEEK j=14 THEN  LET j=j+3
9988 IF PEEK j>=32 THEN  PRINT CHR$ PEEK j;
9989 NEXT j: LET m=FN b()+1: GO TO 9984
9990 LET x=y: LET x$="": LET t=1
9991 FOR m=x TO x+w-1: IF PEEK m=13 THEN  RETURN
9992 IF PEEK m=14 THEN  LET x=m+6: GO TO 9991
9993 IF PEEK m<32 THEN  LET x=x+1: GO TO 9991
9994 IF PEEK m=q(t) THEN  LET x$=x$+CHR$ PEEK m: L
ET t=t+1
9995 IF LEN x$=w THEN  GO TO 9997
9996 NEXT m: IF LEN x$<>w THEN  RETURN
9997 LET z=z+1: LET k=k+(1 AND q$=STR$ FN
 c()): IF q$<>STR$ FN c() THEN  LET z$=z$+STR$ FN
c()+","
9998 BEEP .00,90: PRINT  PAPER 6; BRIGHT 1;x$;: LE
T q$=STR$ FN c(): LET j=m: GO TO 9989
9999 LET k=0: LET z=0: LET q$="": LET z$="": LET e
=23755: DEF FN a()=m+4: DEF FN b()=m+3+PEEK (m+2)+
256*PEEK (m+3): DEF FN c()=256*PEEK m*PEEK (m+3):
RETURN :    REM ##HIGHLIGHT R.G.LUXTON##
```

AMSTRAD CPC464 UTILITY

CHARACTER GRID

Try this utility for your Amstrad; it will help you to define your own characters. By William Lawrie

This is a utility program for the Amstrad CPC464. It gives a full screen grid in each of the three modes. In each mode the height of the screen is the same — 25 characters — so the subroutine at line 590 serves them all. The cursor is in transparent mode — any printing will not destroy the grid.

The grid is useful for finding the locate x,y points for menu's etc. Use the arrow keys to position the cursor.

A word of caution, do not use ENTER or print numbers as they will be incorporated into the program and crash it.

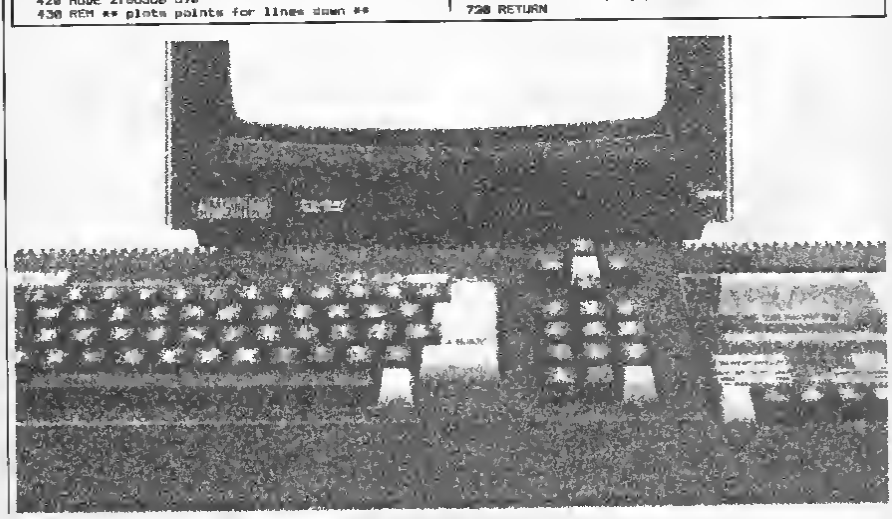
Variables

lx,ly hold x,y co-ordinates for lines across
cx,cy hold x,y co-ordinates for corners
y0,t0 hold x,y co-ordinates for lines down — mode 0
x1,b1 hold x,y co-ordinates for lines down — mode 1
x2,b2 hold x,y co-ordinates for lines down — mode 2
row,i subscripts of arrays

How it works

9 defines STOP key on numeric pad to "RUN"
10 dimensions arrays
20-90 print menu and select mode
100 mode 0
120-190 plot points for lines down
210-220 draw lines down
240 prints numbers and transparent mode
250 locates cursor and ends
260 mode 1
280-350 plot points for lines down
370-360 draw lines down
400 prints numbers and transparent mode
410 locates cursor and ends
420 mode 2
440-510 plot points for lines down
530-540 draw lines down
560 prints numbers and transparent mode
570 locates cursor and ends
590-620 plot and draw rectangle
640-710 plot points for lines across
730-740 draw lines across

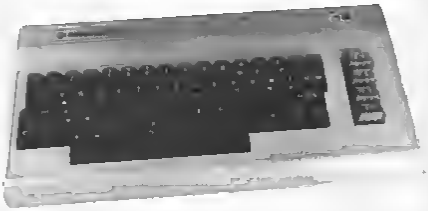
```
1 REM ** CHARACTER GRID **
2 REM ** WILLIAM LAWRIE **
3 REM ** 15,JURA STREET **
4 REM ** NORTH MUIRTON **
5 REM ** PERTH,SCOTLAND **
9 KEY 138,'run'+CHR$(13)
10 DIM lx(4,25),ly(4,25),a0(4,20),b0(4,20),a1(4,40),b1(4,40),a2(4,80),b2(4,80):a
$="123456789*"
20 REM ** prints MENU **
30 MODE 1:BORDER 16:INK 1,1:INK 0,25
40 LOCATE 19,3:PRINT'KEM:"
50 LOCATE 7,5:PRINT"(Press STOP on Numeric Pad)"
60 LOCATE 7,7:PRINT'(for [RUN] and  for [MENU])"
70 LOCATE 9,11:PRINT"*** CHARACTER GRID ***"
80 LOCATE 5,15:PRINT"(Press Key 0 - 1 - 2 for Mode)"
90 z$=INKEY$:IF z$="0"THEN 100 ELSE IF z$="1"THEN 260 ELSE IF z$="2"THEN 420 ELS
E 70
100 MODE 0:GOSUB 590
110 REM ** plots points for lines down **
120 FOR i=1 TO 20
130 a0(2,i)=cx(2)+(cx(3)-cx(2))*i/20
140 b0(2,i)=cy(2)+(cy(3)-cy(2))*i/20
150 NEXT
160 FOR i=1 TO 20
170 a0(4,i)=cx(1)+(cx(4)-cx(1))*i/20
180 b0(4,i)=cy(1)+(cy(4)-cy(1))*i/20
190 NEXT
200 REM ** draws lines down **
210 row =2:FOR i=1 TO 20:PLOT a0(row,i),b0(row,i)
220 DRAW a0(row+2,i),b0(row+2,i):NEXT
230 REM ** prints numbers + transparent mode **
240 PRINT a$+a$;CHR$(22)+CHR$(1)
250 LOCATE 1,24:END
260 MODE 1:GOSUB 590
270 REM ** plots points for lines down **
280 FOR i=1 TO 40
290 a1(2,i)=cx(2)+(cx(3)-cx(2))*i/40
300 b1(2,i)=cy(2)+(cy(3)-cy(2))*i/40
310 NEXT
320 FOR i=1 TO 40
330 a1(4,i)=cx(1)+(cx(4)-cx(1))*i/40
340 b1(4,i)=cy(1)+(cy(4)-cy(1))*i/40
350 NEXT
360 REM ** draws lines down **
370 row =2:FOR i=1 TO 40:PLOT a1(row,i),b1(row,i)
380 DRAW a1(row+2,i),b1(row+2,i):NEXT
390 REM ** prints numbers + transparent mode **
400 PRINT a$+a$+a$+a$;CHR$(22)+CHR$(1)
410 LOCATE 1,24:END
420 MODE 2:GOSUB 590
430 REM ** plots points for lines down **
440 FOR i=1 TO 80
450 a2(2,i)=cx(2)+(cx(3)-cx(2))*i/80
460 b2(2,i)=cy(2)+(cy(3)-cy(2))*i/80
470 NEXT
480 FOR i=1 TO 80
490 a2(4,i)=cx(1)+(cx(4)-cx(1))*i/80
500 b2(4,i)=cy(1)+(cy(4)-cy(1))*i/80
510 NEXT
520 REM ** draws lines down **
530 row=2:FOR i=1 TO 80:PLOT a2(row,i),b2(row,i)
540 DRAW a2(row+2,i),b2(row+2,i):NEXT
550 REM ** prints numbers + transparent mode **
560 PRINT a$+a$+a$+a$+a$+a$+a$+a$;CHR$(22)+CHR$(1)
570 LOCATE 1,24:END
580 REM ** plots and draws rectangle **
590 FOR i=1 TO 4:READ cx(i),cy(i):NEXT
600 DATA 0,399,0,0,639,0,639,399
610 PLOT cx(4),cy(4)
620 FOR i=1 TO 4:DRAW cx(i),cy(i):NEXT
630 REM ** plots points for lines across **
640 FOR i=1 TO 25
650 lx(1,i)=cx(1)+(cx(2)-cx(1))*i/25
660 ly(1,i)=cy(1)+(cy(2)-cy(1))*i/25
670 NEXT
680 FOR i=1 TO 25
690 lx(3,i)=cx(4)+(cx(3)-cx(4))*i/25
700 ly(3,i)=cy(4)+(cy(3)-cy(4))*i/25
710 NEXT
720 REM ** draws lines across **
730 row=1:FOR i=1 TO 25:PLOT lx(row,i),ly(row,i)
740 DRAW lx(row+2,i),ly(row+2,i):NEXT
750 RETURN
```



COMMODORE 64 GAME

MR BENNEY ARRIVES

Simon Eyre introduces you to Mr B, in the first of his adventures



Welcome to the mysterious world of Mr Benney My name is Simon Eyre and I live in the steel city of Sheffield I am 15 years of age and hoping to make a career out of computing after flying helicopters in the RAF Thinking of ideas for chapters of Mr Benney is very hard so I would love to hear from all you Benney fans Send your ideas to me via HCW

Once upon a time in the peaceful world of the C64 cassette port lived a wonderful little chap called Mr Benney He was very smart and wore a suit and a bowler hat in true British fashion He was very ambitious and wanted to do all sorts of things Mr B, as he is known to his friends, shares his home with great stars such as Monty Mole, Miner Willy, Wally Week and many more

Unfortunately they all laughed at Mr B because they were all big and famous, but Mr B had only ever appeared in his balloon in the manual

Mr B was tired and fed up with all this torment, and so one day, while he was flying around in his balloon, he decided to jump and get away from everything

He didn't want to die, so he put on his parachute first He looked down to the ground below and saw cars moving along a road

"That'll be safe to land on," he thought He braced himself as he prepared for the user to press the space bar, when he would jump and be free

The blistering winds blew from either side, bouncing his balloon from side to side His heart pounded faster and faster and sweat broke to the surface

The soothing hum of the engines hummed pleasantly as the user slowly reached out toward the spacebar closer closer

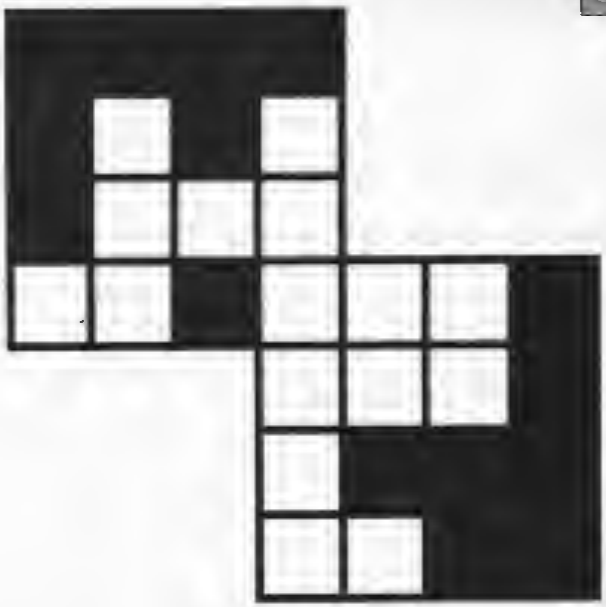
Use A to guide Mr B left, and L to guide Mr B right Press spacebar to jump, but time it perfectly

```
5 DIMRA(3):L=5:POKE650,255
10 V=53248:S1=53280:S2=53281:B=54272:GOSUB5000
15 FORI=1TO100:K=INT(RND(1)*600)+1104
16 K=INT(RND(1)*600)+1104:IFPEEK(K)<>32THEN16
17 POKEK,46:POKEK+54272,1:NEXT
20 FORI=1TO2:RA(I)=RA(I)+4:POKEV+2,0
30 IFRA(I)>255THENRA(I)=INT(RND(1)*75)+1
40 NEXTI
50 POKES+1,25:POKES+4,39
60 POKES+1,20:POKES+4,39
70 POKES+1,26:POKES+4,39
80 POKES+1,27:POKES+4,39
110 POKEV+4,RA(1):POKEV+6,RA(2)
120 K=PEEK(197)
130 IFK=60THEN1000
140 IFK=10THENDE=DE-4:IFDE<0THENX=254
150 IFK=42THENDE=DE+4:IFDE>255THENX=2
160 IFK=12ANDL>0THENL=L-1:Y=Y-4
170 POKES+1,10:POKES+4,39
190 GOTO20
1000 ML=ML-1:GOSUB2000
1010 POKEV+21,63:DS=256:DF=246:DE=X+12
1020 IFDE>255THENDE=255
1030 FORI=(Y+35)TO204STEP2
1040 POKEV+2,DE:POKEV+3,I:POKEV+40,3
1045 K=PEEK(197)
1050 IFK=10THENDE=DE-4:IFDE<0THENDE=254
1051 IFK=42THENDE=DE+4:IFDE>255THENDE=2
1052 IFK=12ANDL>0THENL=L-1:Y=Y-4
1053 POKES+1,10:POKES+4,39
1054 POKEV+2,DE
1060 FORT=1TO2:RA(T)=RA(T)+4
1070 IFRA(T)>255THENRA(T)=INT(RND(1)*75)+1
1080 NEXT
1090 IFRND(1)<.4THENDE=DE-4:IFDE<0THENDE=0
1100 IFRND(1)>.6THENDE=DE+4:IFDE>255THENDE=255
```

```
1105 IFRND(1)=.5ORRND(1)=.4ORRND(1)=.6THENDE=DE+6:IFDE>255THENDE=255
1110 POKEV+4,RA(1):POKEV+6,RA(2)
1130 DF=DF-3:POKES+1,DF:POKES+4,19
1140 IFPEEK(V+30)AND2TNEN3000
1150 NEXT
1160 FORT=0TO50:POKES+1,T:POKES+4,135:NEXT
1170 IFML=0THEN4500
1180 GOTO140
2000 PRINT"LANDINGS:"SC" "
2010 PRINT"MR.B S:"ML" "
2020 RETURN
3000 IFI<194THEN1150
3010 POKEV+2,DE:POKEV+3,197:
3020 POKEV+45,3:POKE2041,198
3030 FORI=0TO50:POKES+1,I:POKES+4,135:NEXT
3040 IFML=0THEN4500
3050 SC=SC+1:GOSUB2000
3060 POKEV+3,197:FORI=DETO0STEP-4
3070 POKEV+2,I:FORL=1TO10
3080 NEXTL,I
3090 POKE2041,193:GOTO140
4500 FORI=1TO5:FORT=0TO15:POKE53280,T
4510 NEXTT,I
4520 PRINT"---MR B COULDN'T LAND---"
4530 FORI=1TO2000:NEXT:RUN
5000 S=54272:FORI=STOS+24:POKEI,0:NEXT:PRINT""
5010 POKES+5,100:POKES+6,100:POKES+24,31
5020 POKES+12,100:POKES+13,100:POKES+19,100:POKES+20,100
5030 AS=0:LE=60:LI=3:X=160:Y=70
5040 POKEV+29,1:ML=10:MO=0
5050 POKE2040,192:POKE2041,193
5060 POKE2042,194:POKE2043,194
5070 POKE2044,194:POKE2045,194
5080 POKE2046,198:GOSUB5500
5090 FORI=0TO62:READA:POKE12288+I,A:NEXT
5100 FORI=0TO62:READA:POKE12352+I,A:NEXT
5110 FORI=0TO62:READA:POKE12416+I,A:NEXT
5120 FORI=0TO62:READA:POKE12672+I,A:NEXT
5130 POKEV+39,12:POKEV+40,3:PRINT""
5140 POKEV+41,4:POKEV+42,14
5150 POKEV+43,7:POKEV+44,5
5160 POKEV+45,3
5170 POKE53280,0:POKE53281,0
5180 FORT=1864TO2023:POKET,173:POKET+54272,6:NEXT
5190 RA(1)=57:RA(2)=114:RA(3)=171
5200 POKEV+5,197:POKEV+7,197
5210 POKEV+9,197
5220 POKEV+21,61:POKEV,X:POKEV+1,Y
5240 PRINT"";
5250 FORI=1TO8:PRINT",,,,,,"
5260 NEXT
5270 RETURN
5500 POKE53280,0:POKE53281,0:PRINT"";
5510 PRINT"------MR BENNEY ARRIVES-----"
5520 PRINT"CHAPTER ONE                    VOLUME ONE"
5530 PRINT" (C) SIMON EYRE 1985 "
5540 RETURN
6000 DATA0,127,0,1,255,192,3,255,224,3,227,224
6010 DATA7,217,240,7,223,240,7,217,240,3,231,224
6020 DATA3,255,224,3,255,224,2,255,160,1,127,64
6030 DATA1,62,64,0,156,128,0,156,128,0,73,0,0,73,0
6040 DATA0,62,0,0,62,0,0,62,0,0,28,0
6050 DATA0,60,0,0,126,0,0,195,128,3,211,192,7,207,192,15,211,224,31,195,240
6060 DATA63,255,248,27,109,178,41,4,144,36,137,16,18,122,32,9,252,64,8
6070 DATA248,128,4,33,0,2,34,0,1,252,0,0,32,0,0,32,0,0,80,0,0,136,0
6075 REM*****36 ZEROS******
6080 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
6085 DATA0,0,0,0,0,0,0,0,0,0,0,0
6090 DATA15,254,0,16,65,0,16,66,128,32,66,112,239,189,254,239,189,255,240
6100 DATA65,255,187,255,187,56,0,56
6110 DATA0,240,0,1,216,0,1,232,0,1,248,0,3,252,0,1,8,0,1,152,0,1,0,0,1,104,64
6120 DATA0,144,128,0,97,0,1,158,0,2,144,0,4,144,0,0,144,0,0,144,0,0,144,0,0
6130 DATA240,0,1,152,0,1,152,0,3,156,0
```

BBC/ELECTRON GAME

VICTORIAN PEG



This classic puzzle for the BBC and Electron is a Victorian treat. A new variation from Trevor Truran brings it up to date

This peg solitaire puzzle, popular in Victorian England and published in America by Sam Lloyd, the disputed King of Puzzledom, is simple enough to solve but difficult to solve in the fewest number of moves

All that you have to do is thift the red blocks to the lower part of the picture while you move the yellow blocks to the top part

The difficulty is, there is only one empty square to play with In the traditional version the pieces move by sliding next door into the empty square or by hopping over one counter into the empty square, as in ordinary solitaire

Henry Dudeney, the other puzzler in the Kingship dispute, solved it in a brilliant 46 moves — there's a challenge for you! As well as giving you the chance to savour the way time was passed before the talking wallpaper entered our lives, the program offers you a new variation — where the counters hop like a knight in chess (Write in if you can beat 40 moves)

The listing gives the full details of the moves allowed in each version as well as how to enter them

If, like me, you hate typing in rules and regulations for a program you will only use yourself and can learn quickly then it is quite in order to deal PROCinst a nasty blow and cod it after line 950 (make line 960 ENDPROC, of course).

How it works

Can't really be much simpler! After a few immodest REMs which remind you that some mug has bruised his finger ends in the cause of computing, line 140 switches off the ESCAPE key for the duration — it's next door to 'I' which will be frequently aimed at and maybe mis-hit

Lines 160 to 210 set up the text and graphic windows, reserve a huge chunk of space for the solution string (don't be misled by that 300 — only a fraction of those moves are actually needed!), set the co-ordinates of the empty square (EMPX and EMPY) and draw the board

PROCinit uses PROCbox to fill in the cells of the board with colour blocks and all is ready for the main loop — which runs from 220 all the way down to 250 The loop invites a MOVE, checks for the end point being reached and keeps throwing you back to do it again until you have the thing solved.

Note that horrible things will happen should you still be in the loop after 300 moves and no solution found — to be rather rude but honest,if you are still at it after 300 moves you deserve to crash!

When the solution has been found the screen will print up the moves you have made and the count and invite another go, choose 'Y' for either the same puzzle or the alternative If you wish to get out for a breather, any other key will end the program, after switching your ESCAPE key back on

The donkey work in the program is carried out by PROCmove (590 to 730)

Moves are entered by choosing, first the COLumn letter (A to E) and then the ROW number (1 to 5) INPUT has been chosen here rather

than GET as with a puzzle quiet contemplation is often needed and if you regret your choice of letter then you can delete it in the usual way before pressing RETURN It is slower, but with one of the world's classic puzzles, who's in a hurry?

In order to keep things simple no routine has been incorporated which would let you undo the last move and have it back You could easily add your own if you wish If you realise the column entry is wrong after pressing RETURN then enter a ROW number for an impossible move and you won't be any worse off Once a legal move is entered, though, it's in and added to the list

Lines 630 to 670 check that a legal move is made according to the choice of puzzle selected by option

Routines and Variables

PROCinst gives instructions and selects choice of 2 puzzles

PROCboard draws the grid of squares with simple MOVE and DRAW

PROCinit fills the squares with blocks by calling

PROCbox which colours in a square PROCini also labels the horizontal and vertical axes with letters and numbers

PROCmove asks for column and row of piece to be moved, checks that it is legal according to the puzzle chosen, empties the box the counter is moving from and fills the previously empty box It also adds the move to the solution string

PROCchecksol rushes round the squares counting how many are the right colour in each half

PROCfalsemove give a visual and audible comment on your attempt to break the rules and asks you to move again

As there is no need for memory saving or speed in this puzzle program % variables are not needed in general and haven't been used, which makes the typing in that much easier

option chooses the puzzle — original or modern variation

win is set at 0 and 1 when the puzzle is solved

EMPX, EMPY the co-ordinates of the empty box

sol% the solution string array

count counts the moves made

X, Y are used for co-ordinates when drawing and in FOR NEXT loops

col the colour for filling squares

A,B local variables in PROC box, co-ordinates

X% the letters for the axis labelling

col% the value of the column input

row the value of the row input

check used to count how many squares are correctly filled with the colour needed for the solution situation

x used in loops in PROCcheck sol as a co-ordinate

Refinements such as a record of the best solution so far and option to print out the moves made on paper can be easily added if you wish

Electron owners change line 150 to MODE6 PROCinst and all should be well — the instructions will appear in plain white rather than fancy colours

```
  100REM ****************************
  110REM **********ALL CHANGE**********
  120REM *******BY TREVOR TRURAN********
  130REM ****************************
  140*FX229,1
  150MODE 7 : PROCinst
  160MODE 5
  170VDU 24,0;0;1000;1000;
  180VDU 28,16,26,19,0
  190X = 00001 : DIM sol$(300) : win = 0 : E
MPX = 400 : EMPY = 400 : count = 0
  200PROCboard
  210PROCinit
  220REPEAT
  230PROCmove
  240PROCchecksol
  250UNTIL win = 1
  260MODE 7
  270PRINT TAB(5,10) CHR$131;"You have solved
 it in ";count;" moves."
  280FOR X = 1 TO count : PRINT sol$(X);" "
: NEXT
  290PRINT : INPUT "Another try (Y/N)",ans$
  300IF ans$ = "Y" THEN RUN
  310*FX229
  320END
  330DEF PROCboard
  340VDU 5
  350FOR X = 100 TO 550 STEP 150
  360MOVE 100,300+X : DRAW 550,300+X
  370MOVE X,400 : DRAW X,850
  380MOVE 400,X : DRAW 850,X
  390MOVE 300+X,160 : DRAW 300+X,550
  400NEXT
  410ENDPROC
  420DEF PROCbox(A,B,col)
  430GCOL 0,col
  440MOVE A+16,B+16 : MOVE A+134,B+16 : PLOT
85,A+134,B+134 : MOVE A+16,B+134 : PLOT 85,A+
16,B+16
  450ENDPROC
  460DEF PROCinit
  470FOR X = 100 TO 450 STEP 150
  480PROCbox(100,300+X,1) : PROCbox(250,300+X
,1) : PROCbox(400,300+X,1)
  490PROCbox(400,X,2) : PROCbox(550,X,2) : PR
OCbox(700,X,2)
  500NEXT
  510PROCbox(400,400,0)
  520X$ = "ABCDE" : GCOL 0,3
  530FOR X = 1 TO 5
  540MOVE 150*X,900 : PRINT MID$(X$,X,1)
  550MOVE 900,X*150+40 : PRINT X
  560NEXT
  570VDU 4 : ENDPROC
  580DEF PROCmove
  590LOCAL X,Y
  600REPEAT : CLS : INPUT TAB(0,2)"COL",col$
: UNTIL ASC(col$)>64 AND ASC(col$)<70
  610REPEAT : CLS : INPUT TAB(0,6)"ROW",row :
 UNTIL row>0 AND row<6
  620X = ABS(64- ASC(col$))*150-50 : Y = row*
150-50
  630IF POINT(X+50,Y+50) = 0 THEN PROCfalsemo
ve : ENDPROC
  640IF option = 49 THEN IF X-EMPX = 0 AND AB
S(Y-EMPY)<400 THEN 690
  650IF option = 49 THEN IF EMPY-Y = 0 AND AB
S(X-EMPX)<400 THEN 690
  660IF option = 50 THEN IF ABS(X-EMPX) = 300
 AND ABS(Y-EMPY) = 150 THEN 690
  670IF option = 50 THEN IF ABS(X-EMPX) = 150
 AND ABS(Y-EMPY) = 300 THEN 690
  680PROCfalsemove : ENDPROC
  690PROCbox(EMPX,EMPY, POINT(X+50,Y+50)) : P
ROCbox(X,Y,0)
  700EMPX = X : EMPY = Y
  710count = count+1
  720sol$(count) = col$+ STR$(row)
  730ENDPROC
  740DEF PROCfalsemove
  750CLS : PRINT TAB(0,5)"NO  SUCHMOVE" : VDU
 7,7,7 : FOR X = 1 TO 2000 : NEXT : CLS
  760PROCmove : ENDPROC
  770DEF PROCchecksol
  780check = 0
  790IF POINT(450,450)<>0 THEN ENDPROC
  800FOR x = 450 TO 750 STEP 150
  810IF POINT(150,x) = 2 THEN check = check+1
  820IF POINT(300,x) = 2 THEN check = check+1
  830IF POINT(x,150) = 1 THEN check = check+1
  840IF POINT(x,300) = 1 THEN check = check+1
  850NEXT
  860FOR x = 600 TO 750 STEP 150
  870IF POINT(450,x) = 2 THEN check = check+1
  880IF POINT(x,450) = 1 THEN check = check+1
  890NEXT
```

P R O G R A M

```
900IF check = 16 THEN win = 1
910ENDPROC
920DEF PROCinst
930CLS : PRINT TAB(10,5) CHR$131; CHR$141;"
VICTORIAN PEG" : PRINT TAB(10,6) CHR$131; CHR
$141;"VICTORIAN PEG"
940PRINT : PRINT "Please choose:-" : PRINT
: PRINT "1...ALL CHANGE, the original puzzle"
: PRINT : PRINT "2...HOPPING MAD, the new va
riation." : PRINT : PRINT "Press 1 or 2."
950REPEAT : optim = GET : UNTIL optim>48
AND optim<51
960PRINT TAB(0,20)"Do you want the rules (p
ress Y or N)" : ans$ = GET$
970IF ans$<>"Y" THEN ENDPROC
980CLS : IF optim = 49 PRINT TAB(10,5) CHR
$131; CHR$141;"ALL CHANGE" : PRINT TAB(10,6)
CHR$131; CHR$141;"ALL CHANGE"
990IF optim = 50 PRINT TAB(10,5) CHR$131;
CHR$141;"HOPPING MAD" : PRINT TAB(10,6) CHR$1
31; CHR$141;"HOPPING MAD"
1000PRINT TAB(0,8)"The 8"; CHR$129;"RED"; CH
R$135;"counters must change places  with the
 8"; CHR$131;"YELLOW"; CHR$135;"counters."
1010IF optim = 49 PRINT "A counter can move
 Horizontally or"; SPC (6);"Vertically." : PR
INT "It can move one square into the empty";
SPC (3);"square or" : PRINT "it can jump over
 one counter into the"; SPC (3);"empty square
."
1020IF optim = 50 PRINT "A counter can move
 like a"; CHR$131;"KNIGHT"; CHR$135;"in"; SPC
 (5);"Chess into the one empty square on the"
; SPC (2);"board." : PRINT : PRINT "(That is 2
 squares horizontally then one vertically or
vv')"
1030PRINT TAB(11,23)"<SPACEBAR>" : A$ = GET$
: REPEAT : UNTIL A$ = CHR$32
1040CLS : PRINT TAB(0,4)"To make a move:" :
PRINT TAB(0,8)"Enter the letter for the COLum
n the' : PRINT "piece is in and press RETURN"
1050PRINT TAB(0,12)"Enter the number for the
 ROW the' : PRINT "piece is in and press RETU
RN."
1060PRINT TAB(0,16)"If you press the wrong k
ey, DELete it" : PRINT "and choose again befo
re pressing RETURN"
1070PRINT TAB(11,23)"<SPACEBAR>" : A$ = GET$
: REPEAT : UNTIL A$ = CHR$32 : ENDPROC
```

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BOOKS

Brainteasers for the Amstrad

Full of new ideas with just a smattering of old chestnuts in disguise, this book will entail many hours at the keyboard — indeed more than need be as the listings have not been re-numbered, so be prepared to type most of the line numbers manually

Newcomers to computing will be disappointed with most of the screen displays as a result of their typing efforts This is by no means peculiar to this particular book In fact, it's the one common failing with most books of listings

Don't expect any of the quality found within the pages of this magazine Editors are very selective now, and listings in magazines are the result of many weeks' loving creation painstakingly produced in the wee small hours In fact, it's a labour of love by authors whose sole focal point is the one program that comprises their current project

Back to the book Several of the powerful Locomotive BASIC commands have been completely ignored Most noticeable by its absence is SPACE$(n) where n is the number of spaces to be printed Instead you are left with the old problem of having to count the number of spaces between quotation marks " " As the author — G Ludinski — says, spaces must be copied exactly So the does it the hard way?

Many of the listings are cluttered with blank REM lines As some of these are GOSUB addresses do *not* leave them out, or you'll be sorry!

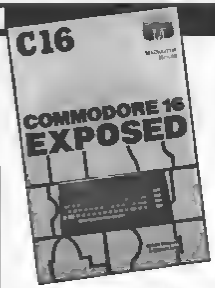
Your newsagent offers far better value for money and often with full-colour screen shots too **D.H**

Price: £5 95

Publisher: Phoenix

Address: 14 Vernon Road, Bushey, Herts

AMSTRAD



Commodore 16 Exposed

In my experience, one of Commodore's strong points is the provision of manuals which are next to useless Whilst it's better than those for the 64 and VIC, the C16's manual is still pretty lousy The resident BASIC is described to a fair extent, but little information on the memory map and other useful aspects is given This silly attitude helps the growth of British industry by prompting publishers to release books which provide the missing information This is one such book

It covers the usual areas of BASIC, graphics, sound, disc and cassette drives, machine code and details of the memory map. The nice feature, however, is the large number of utility routines which are provided Machine code routines are provided, for example, to enable you to merge programs, restore NEWed programs, list variables and perform cross references

One area, ignored by the Commodore manual, which receives attention is the creation of user defined characters This is supported by a rather nice utility to enable you to design your own characters The section on the disk drive is rather weak and adds nothing to the manual This section could have been omitted without weakening the book Apart from this deficiency, the content is solid without dead weight

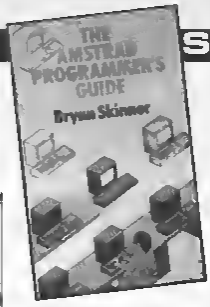
On the whole this is a useful book which is crammed with handy information and which should answer most routine problems At the price, a snip **A.W.**

Price: £6 95

Publisher: Melbourne House

Address: Castle Yard Hse, Castle Yard, Richmond, TW10 6TF

C16



The Amstrad Programmer's Book

Author Bryan Skinner has really done Amstrad owners proud with this super book At £6 95 it also has to be the book bargain of the year

Included are all the main aspects of programming this computer in BASIC, along with a gentle but firm introduction to machine code programming

Twenty-eight chapters, each covering several inter-related commands are amply supported with demonstration listings and an abundance of descriptive diagrams culminating in a clarity of explanation that is sadly missing from the User Handbook

There is nothing more disconcerting to newcomers than the appearance of Boolean operators within a listing before they have a real grasp of the subject So the concise teach-in of Boolean logic in chapter six will be a blessing to novices, who will be able to add considerable speed and sophistication to their own programs

A superb chapter nine is devoted to advanced text and graphic routines that will doubtless enlighten even experienced BASIC programmers Here are many useful ideas that I for one can't wait to put into practice A precise explanation of the use of control codes at the programming level is given which will open a lot of hitherto closed doors especially where graphics are concerned

Unique to Locomotive BASIC are some very powerful commands Bryan Skinner's book is your key to this treasure chest and a permanent reference on all future programming occasions **D.H.**

Price: £6 95

Publisher: Duckworth

Address: 43 Gloucester Cresc, London NW1

AMSTRAD

TOP 20

Compiled by Gallup

SOFTWARE

Fortnight Ending June 11, 1985

LAST WEEK	MOVE	THIS WEEK	TITLE	PUBLISHER	SPECTRUM	CBM 64	ELECTRON	BBC	AMSTRAD	C16	OTHERS
1	●	1	Soft Aid	Various	●	●					
4	▲	2	Spy Hunter	US Gold	●	●					
16	▲	3	Shadowfire	Beyond	●	●					
2	▼	4	World Series Baseball	Imagine	●	●					
3	▼	5	Knight Lore	Ultimate	●		●		●		
9	▲	6	Combat Lynx	Durrell	●	●	●	●	●		
29	▲	7	Alien 8	Ultimate	●		●		●		
7	▼	8	Dambusters	Alligate		●	●		●	●	●
9	●	9	Bruce Lee	US Gold	●	●				●	
13	▲	10	Daley Thompson s Decathlon	Ocean	●	●			●		
17	▲	11	Gremlins	Adventure Int	●	●	●	●			●
12	●	12	Everyone s a Wally	Mikro-Gen	●	●					
14	▲	13	Football Manager	Addictive	●	●	●	●			●
5	▼	14	Starion	Melbourne Hse	●						
30	▲	15	Rocky Horror Show	CRL	●	●					
21	▲	16	Ghostbusters	Activision	●	●	●		●		●
25	▲	17	Manic Miner	Software Project	●	●	●		●		●
10	▼	18	Pitstop 2	CBS		●					
27	▲	19	Raid Over Moscow	US Gold	●	●					
45	▲	20	Theatre Europe	PSS		●					

Up and coming

What a static chart this fortnight! No new entries in the top 20 at all.

It is probably due to the summer doldrums, very little new software released and everyone working on new games for the winter.

Longest running game in the chart is still Football Manager from Addictive but none of Addictive's other games have even made it to the top 50.

In the lower reaches there was more movement with three new entries. Revs from Acornsoft having climbed to number 24 on the grid, Kik Start from Mastertronic zooming in at number 31 and Herbert's Dummy Run crawling in at 34.

After all the pre-release advertising it is surprising to see that Gyron hasn't made more of a mark, it is still stuck at 46 this week.

SPECTRUM Top Ten

1. Soft Aid — Various
2. Spy Hunter — US Gold
3. Shadowfire — Beyond
4. World Series Baseball — Imagine
5. Starion — Melbourne Hse
6. Finders Keepers — Mastertronic
7. Bruce Lee — US Gold
8. Everyone s a Wally — Mik o Gen
9. Formula One Simulator — Mastertronic
10. Rocky Horror Show — CRL

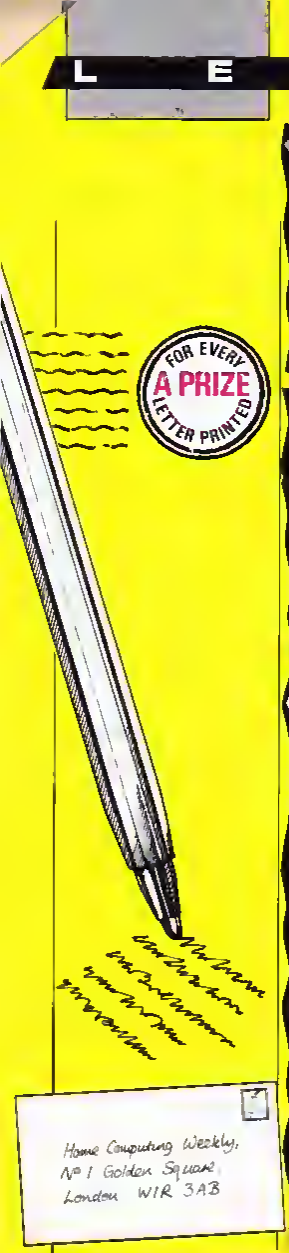
BBC Top Ten

1. Revs — Acornsoft
2. Knight Lore — Ultimate
3. Alien 8 — Ultimate
4. Combat Lynx — Durrell
5. Castle Quest — Micro Power
6. Elite — Acornsoft
7. Attic Attack — Ultimate
8. Mini Office — Database
9. Manic Miner — Software Projects
10. Wizadore — Imagine

COMMODORE Top Ten

1. Soft Aid — Various
2. Dam Busters — US Gold
3. Pitstop — CBS
4. Theatre Europe — PSS
5. Impossible Mission — CBS
6. International Basketball — Commodore
7. Kik Start — Mastertronic
8. Cauldron — Palace Software
9. Airwolf — Elite
10. World Series Baseball — Imagine

Compiled by Gallup for the industry's weekly trade magazine, Computer and Software Retailing
For details contact John Sarrenti, Computer and Software Retailing, No. 1 Golden Square, London W1R 3AB 01 437-0626



Sord story...

Please could you at HCW, or anyone else who reads this letter, tell me where I can get some Sord M5 software for my computer. I have absolutely no idea where to get some and I think it would help if you give the Sord a mention in your magazine.

Rhett Hayward, Milton Keynes

Enter the Enterprise

I read issue No 114 of HCW with interest. What with the cover story about the new Enterprise and the inclusion of an Enterprise program, perhaps there may actually be some response from the supposed 10,000 owners out there.

There has so far been a disappointing response to the letter which was recently printed in HCW from Mark Lissak, concerning the Independent Enterprise Users Group. However, the first issue of the group's magazine, Private Enterprise, is due to be published around the end of June and will contain many useful tips and information, including a screen save/load facility in machine code.

All those who want to hear about the group or wish to contribute should contact Mark Lissak at 40 Manfield Rd, London NW3 2HT enclosing an s a e.

It is good to see a magazine giving some sort of backing to the Enterprise 64 and I hope HCW will continue to do so. Obviously this will depend almost entirely on user reponse, so come on all you owners — you've got a great machine, start proving it. It is said that no machine will get off the ground without software and software houses aren't going to back a machine with no user base, so show yourselves. If the Enterprise goes the way of the Dragon, Lynx and many other good home computers, you have only yourself to blame.

Dave Race, Bicester

Dambusters busted

I was very glad to see your Dambusters review — the US Gold game for the C64. The reason for this is that I bought it the day after it came out — 17 May. At the time I thought it was great, good graphics and sound and extreme addictiveness.

Then I began to notice slight mishaps. After solidly playing for a few days I succeeded in scoring a hit on both the practice and Flight Lieutenant options.

On scoring a hit on level one I was told "It's about time you tried a game" but I had no dam explosion or anything like that. Fair enough, I thought, after all who'd want to play the harder levels when you've seen the end dozens of times on the easy level.

Imagine my dismay when I scored a hit on the second level — the same serene and well drawn dam picture but very still and intact. The message was a standard "Well done, Flight Lieutenant, you did it!" Wow!

Another problem is that my version had no title screen. On reading the review, in HCW, I now learn that there is a title screen and a big explosion at the end. Did I have a bugged copy?

Fortunately I managed to take it back to the shop but only managed to get a replacement — Pole Position, which I can't really say I'm all that wild about, as I really wanted Pitstop II for my collection.

So now I'm left with a game I don't really want and a game I dare not buy in case I get another bugged copy. I'd advise other 64 owners to check their copy of Dambusters for these bugs and return it is there's anything wrong with it.

In the meantime, any suggestions?

Andy Clarke, Beddesley Ensor

...and Sord-er still

I am the proud owner of a Sord M5 home computer. Could anyone tell me where I can get hold of some computer programs for it and how much they would cost.

I would also be interested to know if HCW would let me know when any new programs arrive for review.

E Field, Nuneaton

We are sorry but we cannot enter into personal correspondence with our readers. If we did, we would spend all our time writing letters and there wouldn't be a magazine every week. With regard to Sord M5 software we would be happy to review some if it came our way, but it is a long time since any was seen in this office.

Members wanted

I run a computer club at the YMCA, 64 Forest Road, Walthamstow, London. We started the club some time ago but unfortunately I am unable to get any more members. The club is for people aged 16 and under and anyone else who is interested in computers.

I can give instruction on any computer. At the club we use a C64, Spectrum, Amstrad and sometimes a BBC.

If I don't get more members very soon, I will have no choice but to close the club and Walthamstow will lost its only computer club. I am writing this letter as a last hope so that you will promote the club in your letters page.

Anyone who is interested can write or call in at the club on any Sunday morning and ask to see me for further details.

I would also be interested to hear of somewhere where I can buy cheap software for the club.

S A Britton, Walthamstow

LETTERS PAGE

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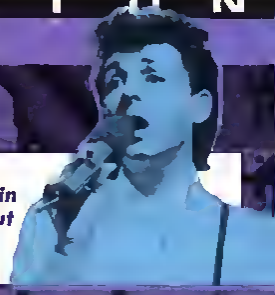

A day in London and a chance to meet Paul McCartney is the first prize in this week's competition.

Runners-up prizes are six albums, six videos and 50 £10 vouchers to be used on any software in the APS range.

Give my Regards to Broad Street is not simply the title of McCartney's new film — it is also an excellent computer game from Argus Press Software. The game is based on the same storyline as the film and has you chasing all over London trying to find your friends and the missing sections of a master tape.

The game has you learning the London streets in a way that Monopoly never did and you get to know a little about the underground too. In order to enter this competition you must have a copy of the game.

We have negotiated a special discount with Argus Press Software which will allow all our Spectrum and C64 readers to claim £1 off the retail price if you apply using the coupon on this page.

Once you have your copy you will need to play the game extensively as the questions are all about your adventures.

How to enter

After you have purchased a copy of the game make sure you spend as much time as you can playing it. Then study the questions below and decide on your answers.

Write your answers on the entry coupon and make sure they are clear and easy to read.

Complete the rest of the coupon which tests your game playing skills.

Finally fill in your name, address and post code as these will be needed if you are one of our prize winners.

Your completed entry form should be sealed in an envelope and posted to us at Broad Street Competition, Home Computing Weekly, No 1 Golden Square, London W1R 3AB to arrive by first post on Friday 9th August.

Questions

1 How many people are there in the game?
2 What make of car does Paul drive in the game?
3 Where do you go after you've collected the missing notes?
4 What tube station does George Martin come out of after leaving Heathrow?
5 In the game, which tube station shows you the Tower of London?
6 Which tube station do you go to in order to visit the Old Justice pub?

The rules

Entries will not be accepted from employees of Argus Specialist Publications, Argus Specialist Press, their agents, printers or distributors.

The editor's decision is final and no correspondence can be entered into.

Broad Street Competition
Entry Coupon

Fill this in as soon as you think that you know all the answers.

Name _____

Address _____

_____

_____

_____ **post code** _____

I think that the answers are:

1 _____
2 _____
3 _____
4 _____
5 _____
6 _____

Validation questions

What is your high score? _____

What time of day did you finish? _____

What was the last tube station Sandra went through? _____

Send your entries to: Broad Street Competition, Home Computing Weekly, No 1 Golden Square, London W1R 3AB. Closing date: First post Friday 9 August 1985.

COMPETITION

Broad Street Discount Voucher

I would like to claim my £1 off the price of Give my Regards to Broad Street for the Spectrum/C64 (delete as required)

I enclose a cheque/postal order for the sum of £6.99 (made payable to Argus Press Software)

Name _____

Address _____

_____

_____ code _____

Send to: *Broad Street Special Offer*
Argus Press Software
Liberty House
222 Regent St
London W1R 6AH

Give my Regards to BROAD STREET

Here is a short routine demonstrating the Enterprise's powerful graphics at work. The shape is created by continually drawing ellipses of increasing size and the colours produced are pleasant pastel shades. Note how the commands within the FOR/NEXT loop have been staggered.

Clive Gifford, Ashford

```
100 GRAPHICS HIGH 256
110 SET LINE MODE 1
120 FOR T=1 TO 255
130   SET INK T
140   PLOT 640,256
150   PLOT ELLIPSE T,T
160   SOUND PITCH 17/4140,DURATION 5
170 NEXT
180 END
```

Puzzle prog

Here's a little program which, we trust, will run on most, if not all micros.

You may like to pop it into your machine's memory and see what happens.

```
10PRINT"Choose a number from 111 to 999'
20INPUT X
30LET X$=$TR$(X)
40LET X$=X$+X$
50LET X=VAL(X$)
60PRINTX
70LET X=X/7
80PRINTX
90LET X=X/11
100PRINTX
110LET X=X/13
120PRINTX
130 PRINT 'WOW! How did that happen?'
190 PRINT"Try it a few times. Can you explain why it works...?
150END
```

Readers' hi-score table

Name	Game	Machine	Score
John Green	Munch-Man	TI-99/4A	217,170
Simon Gray	Pole Position	BBC	102,300
	Killer Gorilla	BBC	36,500
	BMX on the Moon	BBC	2,650

What is a squirrel's favourite computer?
The Acorn Electron

Ziaur Rahman, Nottingham

Which would you buy first: a television or a new computer?
A television, because channel always come before ports

How did the computer dealer sell out of character?
He sold with no strings attached

Hugh Barnard, Basingstoke

"IT JUST PLAYED CHESS WITH MY POCKET CALCULATOR, AND LOST!"

Solution to last week's puzzle

S	P	E	C	T	R	U	M		T
			B				A		I
T	H	O	M	P	S	O	N	S	
					E		I		
A	T	I	C	A	T	A	C		4
I							M		8
R	A	N	D	O	M		I	N	K
			A				N		R
A			T		L	E	E		A
T	E	X	A	S			R	O	M

READERS PAGE

See Micronet 800 in action!

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Written by
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Jump Jet Pilot

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